SCIENTIFIC EVALUATION OF BIOLOGICAL OPINIONS ON ENDANGERED AND THREATENED FISHES IN THE KLAMATH RIVER BASIN

OVERSIGHT HEARING

BEFORE THE

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U.S. HOUSE OF REPRESENTATIVES

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C O N T E N T S

OVERSIGHT HEARING ON ″SCIENTIFIC EVALUATION OF BIOLOGICAL OPINIONS ON ENDANGERED AND THREATENED FISHES IN THE KLAMATH RIVER BASIN″

Wednesday, March 13, 2002
U.S. House of Representatives
Committee on Resources
Washington, DC

The Subcommittee met, pursuant to notice, at 10 a.m., in room 1334, Longworth House Office Building, Hon. James V. Hansen (Chairman of the Committee) presiding.

STATEMENT OF THE HONORABLE JAMES V. HANSEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF UTAH

The CHAIRMAN. The Committee will come to order. This morning, we have a very important hearing on this problem we have in the Klamath area. We do not have too many members here as yet and we are going to have a vote, I am not sure when. It could be as far as 10:30, it may be sooner. So I would like to start, but it is very difficult to start without a member of the minority here. So, my friends over there, where are they?

We appreciate our witnesses being here, and let me apologize to all of you because of this room. Normally on a Full Committee hearing, we hold them in 1324, which is a little larger, and the reason we are doing it here is they are rewiring that room and so we cannot use it. I really apologize to you folks standing. I wish we had a better room for you and we appreciate your patience and your understanding.

Today's hearing is a follow-up of last year's oversight hearing on water management and endangered species issues in the Klamath Basin. We have a panel of experts with us today and I look forward to hearing and discussing their testimony. This Committee thanks them for participating in this hearing.

We would also like to thank the National Academy of Sciences for the interim report we have before us today. We appreciate their quick and objective research and insight they have given us on this important matter. Their professionalism and commitment to excellence justifies the confidence that we have in this organization.

Last week, this Committee held a hearing concerning the submission of false samples of Canadian lynx hair by scientists participating in an interagency survey. Prior to that, we conducted a field

hearing that dealt with questionable policy decisions with regard to endangered species along the Platte River in Nebraska. These oversight hearings have strengthened my belief in the need for sound science. Unless policy decisions are based on sound science, good decisions are possibly only by chance.

Hardly a better example exists of the need for sound science than the recent controversies at the Klamath Basin. In 2001, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service issued biological opinions stating that the series of dams and diversions known as the Klamath project was harming three endangered species of fish, the lost river sucker, the short nose sucker, and the coho salmon. These opinions called for higher lake and stream flows to protect these species.

Based on these opinions, on April 7, 2001, the Secretary of Interior was forced to close the head gates that supplied the primary source of water to approximately 1,400 farmers and more than 200,000 acres of cropland in California and Oregon. The same government who promised full water rights to worthy veterans of the armed services in the Klamath Basin over a half-century ago was now taking them away.

The canals ran dry until July 24, when the Secretary released a small amount of irrigation water, but it was a little too late. More than 3 months without water had caused the fertile green basin that once supplied habitat to hundreds of thousands of waterfowl and thousands of bald eagles to become a scorched and unproductive area. Farmers, unable to harvest their crops, struggled to make mortgage payments. According to a study by Oregon State University and the University of California at Berkeley, direct losses in the Klamath Basin exceeded $135 million. Estimates of long-term losses exceed $200 million. Although the agencies had filled the lake, the farmers' pockets ran dry.

Upon the request of Secretary Norton, the National Academy of Sciences conducted an independent review of this data used by the Fish and Wildlife and National Marine Fisheries Service in their biological opinions. The report concluded that there was no substantial scientific foundation for changing the operation of the Klamath project to maintain higher water levels. The report also found that higher water levels could actually be lethal to the coho salmon in the Klamath River by increasing the water temperature to equal or exceed lethal temperatures during the warmest months of the year.

Some people say the agency used junk science or bad science. I am not here to debate that point, but this I do know. The science was incomplete and incomplete science leads to poor decisions. Sound science is independently verifiable. It is not policy disguised as science.

Some groups argue that we should err on the side of caution and continue to maintain high water levels in the Upper Klamath Lake and the Klamath River. In this case, however, the study shows us two important things. First, the year with the highest fish recruitment level was a year when the lake levels were low. Second, that if we do as these groups wish and maintain high water levels, more warm water would be released from the lake into the river. These releases would be harmful to the coho salmon because of the high

water temperatures. By erring on the side of caution, we would be killing the same species we are trying to protect.

My point is not that lake and river levels should be high or low. My point is that the decisions made regarding these levels must be made based on science. Without such a foundation, we are merely guessing and blindly implementing policy in response to threatened or impending lawsuits. We can do better than that. We must do better than that. I will look forward to hearing from the panel.

[The prepared statement of Mr. Hansen follows:]

Statement of The Honorable James V. Hansen, Chairman, Committee on Resources

Today's hearing is a follow-up of last year's oversight hearing on Water Management and Endangered Species Issues in the Klamath Basin. We have a panel of experts with us today, and I look forward to hearing and discussing their testimony. This Committee thanks them for participating in this hearing.

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Hardly a better example exists of the need for sound science than the recent controversies at the Klamath Basin. In 2001, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service issued biological opinions stating that the series of dams and diversions known as the Klamath Project was harming three endangered species of fish—the Lost River Sucker, Shortnose Sucker, and Coho Salmon. These opinions called for higher lake and stream flows to protect these species. Based on these opinions, on April 7, 2001, the Secretary of Interior was forced to close the headgates that supplied the primary source of water to approximately 1,400 farmers and more than 200,000 acres of cropland in California and Oregon. The same government who had promised full water rights to worthy veterans of the Armed Services in the Klamath Basin over a half-century before, was now taking them away.

The canals ran dry until July 24th when the Secretary released a small amount of irrigation water. But it was too little, too late. More than three months without water had caused the fertile green basin—that once supplied habitat to hundreds of thousands of waterfowl and thousands of bald eagles—to become scorched and unproductive. Farmers, unable to harvest their crops, struggled to make mortgage payments. According to a study by Oregon State University and the University of California at Berkeley, direct losses in the Klamath Basin exceed $135 million dollars. Estimates of long-term losses exceed $200 million. Although the agencies had filled the lake, the farmers' pockets ran dry.

Upon the request of Secretary Norton, the National Academy of Sciences conducted an independent review of the data used by the Fish and Wildlife and National Marine Fisheries Service in their biological opinions. The report concluded that there was no substantial scientific foundation for changing the operation of the Klamath Project to maintain higher water levels. The NAS report also found that higher water levels could actually be lethal to the Coho Salmon in the Klamath River by increasing the water temperature to equal or exceed lethal temperatures during the warmest months of the year.

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warm water would be released from the lake into the river. These releases would be harmful to the Coho Salmon because of the high water temperatures. By "erring on the side of caution," we would be killing the same species we are trying to protect.

My point is not that lake and river levels should be high or low. My point is that the decisions made regarding these levels must be made based on sound science. Without such a foundation, we are merely guessing and blindly implementing policy in response to threatened or impending lawsuits. We can do better than that. We must do better than that.

I look forward to hearing from our panel.

The CHAIRMAN. I would normally turn to one of our members on the minority side. I ask unanimous consent that the statement of the Honorable Nick Rahall be included in the record. Is there objection?

[No response.]

The CHAIRMAN. Hearing none, so ordered.

[The prepared statement of Mr. Rahall follows:]

Statement of The Honorable Nick Rahall, Ranking Democrat, Committee on Resources

I do not envy the National Academy for the task it was presented with. In a two month period, in the midst of their daily responsibilities, the NAS Committee members had to review more than 10 years of data and a very complex ecosystem. Then, without being able to review all the evidence, they were forced to issue a preliminary report that was less than favorable to the decisions chosen by the Federal agencies charged with protecting our endangered species.

When their report was released, the predictable firestorm erupted, with claims that the Federal biologists who prepared the biological opinions for 2001 had based their conclusions on "junk science" and political agendas. If such statements and interpretations of the report are not reflective of a political agenda, I do not know what is.

The panel did not find that the Fish and Wildlife Service and National Marine Fisheries Service based their decisions on bad science, but instead that they did not have enough science. In the case of the Endangered Species Act, however, as is the case with any environmental law, the agencies do not have the luxury of waiting until they have all the science, but instead must rely on the science available to them and then err on the side of protecting the species.

Moreover, many of the panel members have clearly emphasized the preliminary nature of this report and discouraged the rush to judgement. More than one panel member has been quoted as saying that opportunity to review all the science and the system may well reveal that more water for fish, and less for the farmers, was in fact a justifiable requirement.

Those who argue that this NAS report is clear evidence of a need to amend the ESA to ensure all science is considered before policy decision can be made should heed their own call. Let the NAS finish its complete review of the science in the Klamath Basin before rushing to judgement and proposing dramatic changes to the law. The very real needs of irrigators, Indian tribes, and the fishery resources will not be served if we allow "junk policy" to be implemented on the basis of a single interim report.

In the meantime, the Klamath Basin Federal Working Group can begin to tackle the problems in that ecosystem that stretch far beyond the confines of the ESA to the fundamental operation of the system itself.

The CHAIRMAN. On our side, the majority side, it seems to be well represented. The gentleman from Oregon has a distinct and personal interest in this. We would like to turn to him for just a moment.

STATEMENT OF THE HONORABLE GREG WALDEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. WALDEN. Thank you very much, Mr. Chairman. I appreciate your willingness to hold this hearing, and as importantly, your willingness to allow the Resources Committee to meet out in Klamath Falls last spring, or early summer, I guess. That hearing had a few more people in attendance. As some of you may know, there were about 1,500, I think, in the fairgrounds where we held it.

I want to thank the Department of Interior and Sue Ellen Wooldridge especially for moving forward with this independent scientific review and asking for it. I think it was really important to do that.

Mr. Chairman, you have clearly outlined the problems that the people in this basin that I represent have faced, economic devastation, untold losses. It has really been tragic and it has not been good for the environment, either, because as the NAS study reports, the actions taken by the agencies could not be backed up by the data that they had, and in some cases, the agency's actions could actually harm the very fish that they were trying to protect.

So I am glad we have this new data. I am glad that we are going to hear from the National Academy of Sciences and I appreciate their rapid look at the data involved and I am glad that we have gotten those data before the biological opinion has been issued for this year. We were able to incorporate the NAS data into the biological assessment that has been done. That assessment is now out before the U.S. Fish and Wildlife Service and the National Marine Fisheries Service and I certainly hope they are cognizant of the findings of the NAS as they reach for their decisions on the biological opinion.

So great damage has been done. What we need to do, Mr. Chairman, is look forward now and actually do the projects and complete the studies that will improve water quality, that will improve fish habitat, that will improve water quantity, that will guarantee we will have water for farmers. There are all kinds of very intriguing and creative proposals out there right now that this Congress and this administration is looking at carefully to see how we can implement so we can once and for all get this one behind us and actually improve water quality, quantity, and fish habitat. It can be done, Mr. Chairman.

With that, again, I thank our panelists for being here and the hard work they have all put into this and I appreciate your leadership on this issue. Thank you, Mr. Chairman.

The CHAIRMAN. I thank the gentleman.

I shall now ask consent that the gentleman from California, Mr. Herger, be allowed to sit on the dais of this Committee. Is there objection?

[No response.]

The CHAIRMAN. Hearing none, thank you for being with us, Mr. Herger. We appreciate having you with us.

Let me just say that this has brought to a head a lot of the things we have been working on and I have never seen a time when it is more interesting to this Committee. The gentleman from Nebraska recently held a field hearing and had a very good turnout

and a very good response. The gentleman from California, Mr. Pombo, has been working on this and has introduced some legislation. The gentleman from Oregon, Mr. Walden, has also introduced legislation and we are going to start going through that hard process of hearings in a very short time on some very interesting things regarding endangered species, which somehow America has got to get their hands around this one.

The CHAIRMAN. I again thank the witnesses for being here. We have three witnesses today, Sue Ellen Wooldridge, Deputy Chief of Staff, Department of the Interior; Dr. William T. Hogarth, Director of the National Marine Fisheries Service; and Dr. William M. Lewis, Junior, Chairman of the Committee on Endangered and Threatened Fishes in the Klamath River Basin, of the National Research Council of the National Academy of Sciences, that distinguished group.

We will start with the Department of the Interior. The rules kind of run this way. You see that little stop sign in front of you there? It is just like you see when you come up to a light. Green, you go; yellow, you wrap up; and red, I gavel you down. But if you have something that is extremely important, we may let you sneak by for an additional 15 to 30 seconds, OK? The floor is yours, ma'am.

STATEMENT OF SUE ELLEN WOOLDRIDGE, DEPUTY CHIEF OF STAFF, U.S. DEPARTMENT OF THE INTERIOR

Ms. WOOLDRIDGE. I actually did a very poor job on the time that I was given out in Klamath Falls, so I have deliberately kept my remarks short today. I want to thank you for the invitation to appear before you today and I appreciate the fact that you all have hung in on this issue because it is a very important issue to all of us, no matter which side of the issues you take. It is one that I think deserves all of the attention that it has been given.

On April 6, the Bureau of Reclamation announced that, due to drought conditions, ESA, and tribal obligations, no water would be delivered to the farmers in the Klamath project out of Upper Klamath Lake. This was necessary to operate consistently with the biological opinions which we received from the National Marine Fisheries Service and from the Fish and Wildlife Service. The water was to remain in Upper Klamath Lake for the protection of the endangered sucker and to be sent downriver for the protection of the threatened coho.

On July 24, long after the irrigation season began and based on revised estimates of the amount of inflow to Upper Klamath Lake, we were able to deliver finally about 75,000 acre feet of water to the farmers in the project. The water was delivered and to the extent that it could be used by the farmers at that late date, we did deliver it.

During the decisionmaking process and at the time of my testimony before this Committee last June, we had heard numerous complaints about the science underlying the biological opinions and it was clear that public confidence in our decisions had been shaken. Our desire to instill confidence, our questions about the adequacy of the peer review that had been given, and based on our fundamental obligation to make decisions based on the best scientific and commercial data available led us to announce that we

would solicit external review for the biological assessments prepared by the Bureau of Reclamation and on the biological opinions prepared by the Fisheries Services.

Our choice of the National Research Council as the scientific body to conduct the independent review was due in part to the fact that the independent review would, in fact, be a hindsight test. They were going to be conducting their study on assessments and opinions already given, on decisions that we already had made, and, therefore, on impacts which already had occurred. We did not have an opportunity to make people confident in the process which led to the opinions, but we did have an opportunity to make people, or at least attempt to instill some confidence in the judgments that we had made in that process. Thus, it was imperative to us that we get the very best scientific review agency to look at the assessments in the opinions to determine whether they would concur in our scientific judgments and the decisions that flowed from those judgments or not.

The NRC concluded there was no substantial scientific foundation for requiring higher water levels in Upper Klamath Lake or higher water levels in the Klamath River. The NRC also concluded that there was no scientific basis for operating the lake at mean minimum levels below the recent historical ones, as has been proposed by the Bureau of Reclamation.

The report was funded by all three agencies, the Fish and Wildlife Service, Bureau of Reclamation, National Marine Service. It should be noted that NRC's conclusions are subject to modification as they continue their studies and they will be coming out with their final report next—I believe at the end of March 2003.

As for how the Department is utilizing the interim draft report, the Bureau of Reclamation in its final 2002 BA, as referenced by Mr. Walden, contemplates the lake levels and river flows that are consistent with the conclusions that are found in the draft report. Additionally, the Fish and Wildlife Service and NMFS, and he can speak for himself, but I believe they will be taking into account and considering those conclusions as they go forward in our Section 7 consultation and look at the conclusions that were in the NRC study.

We believe the NRC was accurate in its statement that independent external review increases confidence in scientific and technical judgments, and this is especially important when judgments underlie important policy decisions. It is equally true that for people who have confidence in decisions made on the basis of scientific judgment, we need to have scientific processes which warrant that confidence.

We are in the midst of reviewing these processes internally in the Department, but in general, a few things are clear. We need to ensure that our decisions are based on accurate and reliable science, and toward that end, we must have high ethical and professional standards, appropriate training and allocation of staff resources—I am seeing a red. Does that mean I have to stop?

The CHAIRMAN. You are on your 30 seconds. Keep going.

Ms. WOOLDRIDGE. —independent review of science, when appropriate, and, if time permits, active participation with our State partners, fish and game agencies, or fish and wildlife agencies, de-

pending on which State you are in, and effective communication with OMB, Congress, and the public.

If asked, I would tell you about what we are doing on the going-forward basis with our new working group.

[Laughter.]

Ms. WOOLDRIDGE. Thank you.

The CHAIRMAN. I am sure you will be. Thank you very much.

[The prepared statement of Ms. Wooldridge follows:]

Statement of Sue Ellen Wooldridge, Deputy Chief of Staff, U.S. Department of the Interior

Thank you for the invitation to participate today in this oversight hearing on the Draft Interim Report of the National Academy of Sciences' National Research Council (NRC), a "Scientific Evaluation of Biological Opinions on Endangered and Threatened Fishes in the Klamath River Basin." I appreciate the opportunity to be here today on behalf of the Department of the Interior. I will make some brief oral comments, but I request that my entire written statement be included in the record of this hearing.

As you know, on March 1, the President announced the establishment of the Klamath Basin Federal Working Group, composed of the Secretaries of the Interior, Commerce, and Agriculture, and the Chairman of the Council on Environmental Quality, in order to advise him of the immediate and long-term actions necessary to enhance water quality and quantity and to address the complex economic and natural resource issues in the Basin. The President has encouraged the Working Group to seek input from stakeholders, including members of the farming and fishing communities, residents of the Basin, representatives of conservation, environmental and water use organizations, and existing coordinating entities, the States of Oregon and California, local governments, and representatives of Klamath River Basin Tribal governments.

At the first meeting of the working group on March 8, the group announced measures to assist farmers and ranchers and to conserve fish. The measures include:

- The Agriculture Department will provide more than $1.6 million to accelerate the delivery of conservation, technical and financial assistance for irrigation water management filter strips and creation of wildlife habitat to improve water quality and result in a water savings of up to 30 percent in some cases.
- In addition, USDA will extend the sign&8209;up period for the Emergency Conservation Program through September 2002, to give farmers and ranchers additional opportunities for financial assistance to assist in obtaining an adequate water supply for livestock.
- In direct relief, USDA will work with farmers and ranchers to explore opportunities for delaying loan repayments, rescheduling or consolidating loans or even writing down of some indebtedness.
- The U.S. Forest Service will begin 22 special projects in the Wimena&8209;Fremont National Forest to provide more than 20 miles of stream improvement, decommission nearly 45 miles of roads and provide for meadow enhancement and spring protection.
- The Commerce Department will make producing the biological opinion for operation of the Klamath Project its highest priority.
- The Bureau of Reclamation will accelerate the construction of proposed fish screens on A Canal, the major water diversion point out of Upper Klamath Lake, once the design phase is completed. The Fish and Wildlife Service has identified screening as an important step to avoid loss of endangered fish. The screens will be completed by the beginning of the irrigation season on April 1, 2003, a growing season ahead of the original schedule. The screens will divert the fish that are larger than the openings on the screens and pumps will return them to the lake. The total cost of the project is estimated to be close to $14 million.

The Bureau of Reclamation's Klamath Project has historically provided water to about 1400 farm families on approximately 230,000 acres of irrigated agriculture in the Klamath Basin, and to two major portions of the Klamath Basin National Wildlife Refuge complex. In 2001, for the first time in the history of the project, farmers in the Project served from Upper Klamath Lake received only about one-fifth of their contracted Project water due to a serious drought in the Basin and the need to fulfill tribal trust and Endangered Species Act (ESA) obligations.

The U.S. Fish and Wildlife Service (FWS) has responsibility under the ESA for the Lost River and shortnose suckers, which occur only in the upper Klamath Basin and are listed as endangered. The National Marine Fisheries Service (NMFS) has the lead ESA responsibility for consultation on the coho salmon, which is listed as threatened. Prior to their designation as endangered and threatened under the ESA, these fish supported tribal fisheries and a large commercial fishery, which have been greatly diminished in recent years. The decline in these fish has been attributed to a number of factors, as noted in the NRC report,[1] including degradation of spawning habitat, deterioration in water quality, overexploitation by commercial and non-commercial fishing, introduction of exotic species, blockage of migration routes, entrainment of fish in water management structures, and reduced access to spawning areas.

Prior to the 2001 planting season, on February 13, 2001, the Bureau of Reclamation prepared a biological assessment that proposed operating the Klamath Project consistent with historical operations (from 1961–1997). On April 5 and 6, 2001, the FWS and NMFS issued biological opinions that established lake levels and river flows higher than those resulting from historical operations in order to avoid jeopardizing the three listed species.

On April 6, 2001, the Bureau of Reclamation announced that given the serious drought conditions in the Basin and in order for the Bureau to operate the Project consistent with its ESA and tribal trust obligations, no water would be made available for delivery from Upper Klamath Lake to Project contractors or to refuges. The Bureau believed this was necessary to comply with the biological opinions issued by the FWS and NMFS. Water was to remain in Upper Klamath Lake for the protection of endangered suckers or be sent down the river for the protection of the threatened coho salmon.

Reclamation provided only minimal amounts of water for irrigation, including about 70,000 acre-feet of Project water to areas served from Clear Lake and Gerber Reservoir (the full entitlement for those areas). No water was delivered to areas served by Upper Klamath Lake from April to July for irrigation or refuges. On July 24, the Secretary announced, following mid-season reassessment of available water resources, that 70,000 to 75,000 acre-feet would be released for Project farmers from Upper Klamath Lake. This water was delivered. Subsequently, the Secretary purchased an additional 3,700 acre-feet of water for the refuges to help wintering threatened bald eagles and migratory waterfowl.

The decision made in April of 2001 not to provide water to project contractors had devastating impacts on many people in the Klamath Basin. While we were deeply concerned about the possible social and economic consequences of these decisions, we believed we had to execute our ESA and tribal trust responsibilities.

It is inarguable that, for people to have confidence in decisions made on the basis of scientific judgments, we should have scientific processes that warrant such confidence. In this case, persistent charges that the decisions were not supported by the existing data made it clear that public confidence was shaken. Because of this, and because of our concerns over lack of independent scientific review, we announced in June that we would solicit an external review of the science used in the Klamath River biological assessments and biological opinions.

The Secretary of the Interior and the Secretary of Commerce arranged for the National Research Council of the National Academy of Sciences to conduct an independent review of the scientific basis for the 2001 FWS and NMFS biological opinions and the Bureau of Reclamation's 2001 biological assessment. We asked that an interim report be issued by January 31, 2002, so that preliminary findings would be available when the Departments were preparing new assessments and opinions for the upcoming Klamath Project operating year.

The National Research Council Committee on Endangered and Threatened Fishes in the Klamath River Basin, formed specifically for this review, issued a Draft Interim Report on February 6, 2002. (The final interim report will be available in April, the final report in March of 2003.)

Among its most significant preliminary findings, the NRC Draft Interim Report found "strong scientific support" for all of the determinations and recommendations included in the biological opinions, except for what in this case were the most crucial determinations related to lake water levels and minimum stream flows.[2] The Report then concludes that "...there is no substantial scientific foundation at this time for changing the operation of the Klamath Project to maintain higher water

[1] Draft Interim Report, Summary, p.1.
[2] Draft Interim Report, p. 2.

levels in Upper Klamath Lake for the endangered sucker populations or higher minimum flows in the Klamath River main stem for the threatened coho population."[3]

Further, the Draft Interim Report also states, "At the same time, the committee concludes that there is no scientific basis for operating the lake at mean minimum levels below the recent historical ones (1990–2000) as would be allowed under the USBR proposal. Operations leading to lower lake levels would require acceptance of undocumented risk to suckers."[4]

The NRC committee makes it clear that the conclusions in the Draft Interim Report are not final. It states, "The committee's conclusions are subject to modification in the future if scientific evidence becomes available to show that modification of flows or water levels would promote the welfare of the threatened and endangered species under consideration by the committee. The committee will make a more comprehensive and detailed consideration...over the next year, during which time it will develop final conclusions."[5]

Upon receipt of the Draft Interim Report, Secretary Norton instructed Dr. Steve Williams, the newly confirmed Director of the Fish and Wildlife Service, and John Keys, Commissioner of the Bureau of Reclamation, to evaluate the NRC findings.

Thus, the Bureau of Reclamation, in its recent final 2002 Biological Assessment, contemplates lake levels and river flows that are consistent with the conclusions in the Draft Interim Report.

The Fish and Wildlife Service and the National Marine Fisheries Service will consider the conclusions of the Draft Interim Report during the section 7 consultation with the Bureau, which was formally initiated by the Bureau on February 27, 2002, and during preparation of their biological opinions.

In light of the NRC comments, we need to that ensure our decisions are based on accurate and reliable science and that our science is consistent with the Secretary's general goals for science within the Department. These goals are: high ethical and professional standards, appropriate training and allocation of staff resources, independent review of science when appropriate and time permits, active participation with our state partners, fish and game agencies and others, and effective communication with OMB, Congress, and the public.

Research continues in the Klamath Basin to improve the science base. Public Law 106–498 directed the Secretary to complete ongoing hydrologic surveys in the Klamath Basin conducted by the U.S. Geological Survey. The study has four phases and is scheduled to be completed in Fiscal Year 2005. The Act also authorized the Secretary to compile information on native fish species in the Upper Klamath River Basin, upstream of Upper Klamath Lake. A compilation of existing information is currently underway, and will be used to determine the necessity of further studies.

We will see that these studies are given very high priority. We fully appreciate the necessity of these and other projects to work toward a sustainable future within the basin, both for those who live and work there and for the wildlife we are pledged to conserve.

In this first year of the Administration, Klamath has occupied a great deal of our time and effort. Among other things, it has brought into sharp focus our need to assess the development and application of science by the Department in addressing the goals of providing sufficient water supply while complying with Federal environmental laws and meeting tribal trust obligations.

This concludes my prepared testimony. I am pleased to answer any questions you may have.

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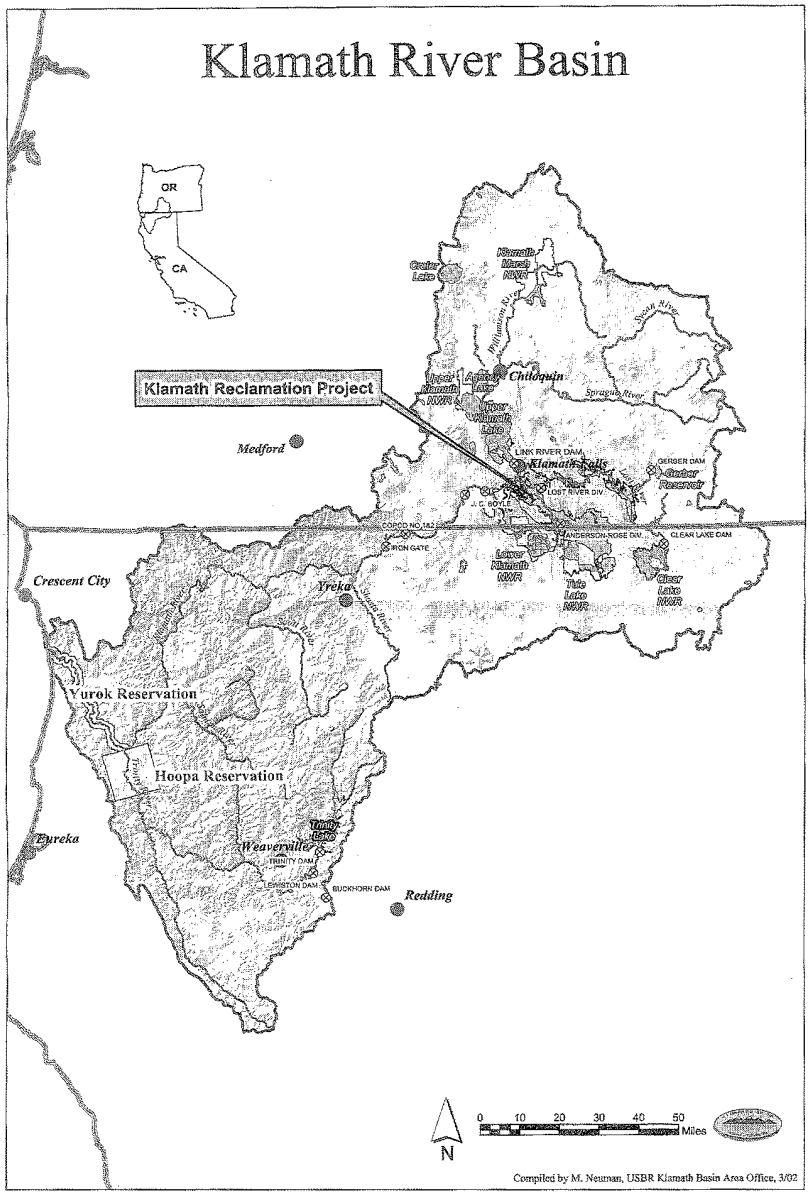
[3] Draft Interim Report, p. 3.
[4] Draft Interim Report, p. 3.
[5] Draft Interim Report, p. 4.


Klamath River Basin
OR
CA
Klamath Reclamation Project
Medford
Crescent City
Eureka
Yreka
Yurok Reservation
Hoopa Reservation
Weaverville
Redding
Chiloquin
Klamath Falls
Upper Klamath Lake
Agency Lake
Lower Klamath Lake
Crater Lake
Klamath Marsh NWR
Williamson River
Sprague River
Link River Dam
Gerber Dam
Gerber Reservoir
Lost River Div.
J.C. Boyle
Copco No. 1&2
Iron Gate
Anderson-Rose Dam
Clear Lake Dam
Lower Klamath NWR
Tule Lake NWR
Clear Lake NWR
Trinity Dam
Lewiston Dam
Buckhorn Dam
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Compiled by M. Neuman, USBR Klamath Basin Area Office, 3/02

The CHAIRMAN. Dr. Hogarth?

STATEMENT OF WILLIAM T. HOGARTH, DIRECTOR, NATIONAL MARINE FISHERIES SERVICE

Mr. HOGARTH. Good morning, Chairman Hansen and distinguished members of the Committee. I am Bill Hogarth, the Assistant Administrator for NOAA Fisheries. Maybe my Southern accent and fast way of speaking will get me through in 5 minutes, but I hope you understand.

I want to thank you for the opportunity to participate in this important hearing. I have a few opening comments and request that my written statement be included in the record.

First, I would like to advise you of what we are already doing to address the Klamath situation. On March 1, the President announced the establishment of the Klamath River Basin Federal Working Group, which is comprised of the Secretaries of Commerce, Interior, Agriculture, and the Chairman of the CEQ. The primary mission of this group is to advise the President on immediate and long-term solutions to the complex issues in the Klamath Basin and will include input from the stakeholders. The Department of Commerce and NOAA under Admiral Laudenbacher will work closely with our Federal partners to yield productive results.

Second, on February 28, NMFS received the Bureau of Reclamation's biological assessment for operations for 2002 through 2012. Our review of the document is underway and our immediate goal is to conduct a prompt, thorough review and provide a biological opinion regarding plans to deliver water to Klamath farmers in a timely fashion.

Third, NMFS will continue to work with the Department of the Interior and other interests to identify measures to improve conditions for threatened coho salmon, not just in 2002, but for the long term. I would also like to commend Representative Walden and others for supporting legislation to conserve water, enhance water storage, and improve water quality in the Klamath River and its tributaries.

Fourth, NMFS scientists will seek to update, expand, and incorporate new data to improve the understanding of threatened coho and their habitat. In doing so, NMFS will produce better science to guide actions affecting project operations, water quality, flows and habitat conditions for coho salmon over the long term.

As you know, coho salmon in the Klamath Basin were listed as threatened under the ESA in 1997. Since 1997, we have been working diligently to understand and incorporate new information as it relates to the annual Klamath project planning process and consultation.

As you know, the drought last year, one of the worst ever, intensified the competition among the water needs in the region. It resulted in very contentious operating planning in the Klamath. The 2001 biological opinion included alternative river flow recommendations for the period April to September. Based on the spawning habitat modeling results, NMFS concluded that the increased flows would aid the passage and spawning of coho habitat. The Bureau of Reclamation and PacifiCorp acted in accordance with NMFS' recommended flows to avoid jeopardy as set out in the biological

opinion. These actions contributed to irrigation water shortages for Klamath farmers.

Last year, the administration sought an independent scientific review of the information used in the 2001 biological opinion. As you are aware, we contracted with the National Academy of Sciences. We have their interim report and now we are awaiting their final report within 18 months. I am grateful for the Academy's interest to ensure that NMFS and U.S. Fish and Wildlife use the best peer-reviewed science. The report reinforces that there is still much to be learned, but NMFS is committed to working with the U.S. Fish and Wildlife Service, the Bureau of Reclamation, and other entities to address these issues that were raised by the Academy so that improved management decisions will be made in the future.

We have, however, requested clarification of certain technical issues regarding the effect of increased flows and the NRC's analysis on young coho salmon. As the NRC completes its final report, we will seek to address these technical issues in order to support and implement the NRC's recommendations.

I want to emphasize that we must act together. I am committed to exploring all options with all interests to find long-lasting and satisfactory solutions to the difficult challenge of meeting the water needs for all interests in the Klamath Basin.

Thank you, Mr. Chairman, and I will be happy to address any questions.

The CHAIRMAN. Thank you.

[The prepared statement of Mr. Hogarth follows:]

Statement of Dr. William T. Hogarth, Director, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce

Good morning, Chairman Hansen, Ranking Member Rahall, and distinguished members of the Committee. I am Bill Hogarth, Assistant Administrator for Fisheries at the National Oceanic and Atmospheric Administration. On behalf of the Department of Commerce and the National Marine Fisheries Service (NMFS), I want to thank the Committee for the opportunity to participate in this important hearing on the National Academy of Sciences= Draft Interim Report on Endangered and Threatened Species in the Klamath Basin. I have a few opening comments and request that my written statement be included in the record.

Before I comment on the National Academy of Sciences report, I want to advise the Committee about a few key things we are already doing to address the Klamath situation.

As you know, over the past year the Administration has devoted substantial, senior level attention to finding solutions to the complex Klamath Basin issues. Most recently, on March 1st, the President announced the establishment of the "Klamath River Basin Federal Working Group"—comprised of the Secretaries of Commerce, Interior, Agriculture and the Chairman of the Council on Environmental Quality. The primary mission of this group is to advise the President on immediate and long-term solutions to enhance water quality and quantity and other complex issues in the Klamath Basin. The Working Group will solicit and include input from all stakeholders in its recommendations to the President. The Department of Commerce and NOAA, under the direction of Admiral Lautenbacher, will work closely with our other Federal partners to yield productive results.

Second, NMFS recently received the U.S. Bureau of Reclamation's (BOR) biological assessment for operations during the period of 2002 to 2012. Our review of this document is underway, and we have been working through the issues. Our immediate goal is to conduct a prompt, thorough review, and to provide a biological opinion regarding plans to deliver water to Klamath farmers in a timely fashion. I can assure the Committee that we will work hard to get the work completed as soon as possible, and I will be monitoring the progress of our efforts very closely.

Third, NMFS will continue to work with BOR, the U.S. Fish and Wildlife Service (USFWS), and other Federal, state, and tribal interests to identify what measures can be taken to improve conditions in the Klamath River and its tributaries for threatened coho salmon—not just in 2002, but for the long-term. We must develop long-term management actions to provide certainty for farming, wildlife, fishing, and cultural interests, while also providing a sound basis for protecting and conserving fish populations. I commend Representative Walden and Herger, Senators Gordon Smith and Wyden and others for their support for legislation to conserve water, enhance water storage, and improve water quality in the Klamath River and its tributaries.

Fourth, NMFS scientists, in conjunction with others, will seek to update, expand, and incorporate new data to improve the understanding of threatened coho and their habitat, and in doing so, will produce better science that will guide actions affecting project operations, water quality, flows, and habitat conditions for coho salmon in the Southern Oregon and Northern California regions over the long-term.

I will now briefly describe the chronology of NMFS' involvement in the Klamath issue and its development of the 2001 Klamath Biological Opinion for coho.

Water Quantity and Quality Demands for Coho Salmon in the Klamath

Long-term planning efforts for Klamath Project operations began following a drought in 1994, which focused attention on competing needs for water in the Klamath Basin. Interest faded somewhat in the mid- to late 1990s, when the upper Klamath River Basin experienced normal to above-normal water supply conditions.

In 1997, NMFS listed Southern Oregon/Northern California Coast coho salmon as threatened under the Endangered Species Act. Critical habitat was designated shortly after that. Prior to 1997, little information was available regarding the relationship between Klamath River flows and the biological requirements of salmon and steelhead. This was particularly true for coho salmon, as this species is inherently difficult to study both because of its life history and because the populations of coho salmon are depressed.

Since 1997, a number of groups have gathered data and have developed analyses regarding the relationship between Project operations and other activities in the Basin, river flows, fish habitat, and water quality. Over the past few years, NMFS has worked diligently to understand and incorporate this new information, almost on a real time basis, as the new information relates to the annual planning process and consultations that have occurred.

As you may know, in the fall and winter, adult coho salmon enter the Klamath River and tributaries and spawn between October and February. Sufficient flows provide upstream passage and tributary access and allow for spawning in the mainstem river. In the spring, coho salmon hatch, emerge as small fish called "fry" and migrate to the river's edge between February and early June. Fry require appropriate habitat in order to grow and avoid predation. Current information shows that this type of habitat is generally found at the edges of a river.

Throughout the summer, juvenile coho salmon require appropriate habitat including acceptable water temperatures and quality. Water temperatures in the mainstem of the Klamath River regularly exceed optimum levels for salmon during summer months. Accordingly, juvenile salmon are believed to seek cooler water in available "thermal refugia" near springs and in tributaries featuring better habitat.

For the next six months, juvenile salmon continue to grow and remain in fresh water habitat. Between April and June, coho salmon juveniles from the previous year's cohort transition to the "smolt" life stage, and migrate to the ocean. During this period, flows need to be sufficient to provide adequate forage, predator avoidance, and passage conditions.

As you know, the drought last year—one of the worst ever—again focused the intense competition amongst water needs in the region and resulted in rushed and contentious operation planning for the Project.

NMFS and the 2001 Biological Opinion

In January 2001, BOR submitted a biological assessment to NMFS on its proposed project operation. BOR's proposed action was to operate the Klamath Project in the same manner as it had historically done over the years. During the development of the 2001 biological opinion, NMFS first considered all known minimum Klamath River flow recommendations developed by biologists over the past 50 years, including: (1) 1950s recommendations based on limited physical measurements and the professional judgment of California Department of Fish and Game biologists; (2) recommendations previously prepared for the Yurok Tribe; and (3) recommendations based on a number of available methods, outlined in the Phase I Flow Study by the Institute for Natural Systems Engineering (also known as the "Hardy Study" from

Utah State University). NMFS also considered other temperature and habitat modeling results that were available at the time the 2001 biological opinion was developed.

Based upon these sources, in April 2001, NMFS determined that Reclamation's proposed operation of the Project was likely to jeopardize the continued existence of Klamath Basin coho salmon. The Biological Opinion provided alternative river flow recommendations for the period of April to September 2001. Based on spawning habitat modeling results, NMFS concluded that mainstem passage and spawning habitat, and tributary access, would be adequate with a flow of 1,300 cubic feet per second—the minimum flow for this time period that was previously established by FERC. Habitat modeling for young-of-the-year coho salmon in the mainstem Klamath River indicated that under BOR's proposed 2001 action, habitat would be severely restricted. BOR and PacifiCorp, the manager of several dams on the Klamath River, acted in accordance with NMFS' recommended flows to avoid jeopardy as set out in the Biological Opinion. These actions contributed to irrigation water shortages that Project farmers suffered in 2001.

Beginning in late June, water temperatures in the mainstem Klamath River generally become too warm for salmon and steelhead. Most juvenile salmon in the mainstem likely make periodic use of "cool water refuges," areas in the river that are cooler than ambient conditions. While NMFS generally believes that water should be managed in the mainstem to optimize cool water refuges and, to the extent possible, optimize water temperatures and quality for salmon, little is known about how to specifically accomplish these goals in the Klamath River. As a result of the uncertainties and because tributaries would contribute very little water to the mainstem during the dry 2001 summer, NMFS, in its 2001 Biological Opinion, recommended the flows be set at 1,000 cubic feet per second, consistent with available biologist recommendations to date. This level of summer flow lies between FERC's minimum flows and the Phase I Flow Study Report recommended flows.

National Academy of Sciences Report

Last year, Secretary Evans and Secretary Norton called for an independent scientific review of the NMFS, USFWS and BOR's use of information in the 2001 Biological Opinions for Klamath Project operations. NMFS, USFWS, and BOR contracted with the National Academy of Sciences to provide an interim report within a few months, and a final report within about 18 months of the request.

I am grateful for the Academy's National Research Council's (NRC) dedication of time and analysis to ensure that NMFS and USFWS use the best peer-reviewed science. I have carefully reviewed the NRC's recently released interim report. The report points out four main conclusions: (1) there was strong scientific support for all Reasonable and Prudent Alternative requirements in the two Biological Opinions except for the alternative water management recommendations; (2) the proposed operation of the 2001 Klamath Project operation in the Bureau of Reclamation's Biological Assessment was not supported by available scientific information; (3) the flow recommendations included in the 2001 Biological Opinions prepared by NMFS and USFWS were not supported by available scientific information; and (4) there is no convincing scientific justification at the present time for deviating from the operational practices in place between 1990 and 2000.

The NRC's analysis reinforces that there is still much to be learned, and that policy decisions affecting the Klamath Basin need to be based on complete data, analyses, and modeling. NMFS is committed to working with USFWS, BOR, and other entities toward more informed and better water and fish management decisions in the future. I recently sent a letter to Dr. William Lewis, chairman of the NRC committee that drafted the report, requesting clarification of certain technical issues regarding the effect of increased flows in the NRC's analysis on young coho salmon. As the NRC completes its final report, we will seek to address these technical issues in order to develop a robust opinion to support and implement the NRC's recommendations.

As the NRC's findings highlight, additional information is needed in order to develop better, longer-lasting water management solutions. Development of appropriate strategies may require a high level of scientific effort supported by sufficient funding. The proactive involvement of all interested parties will also be required to ensure that the scientific basis for providing for the needs of fish—as well as the needs of farmers, tribes, recreational fishermen and other users in the Basin—are understood and supported by all who are affected by Federal management decisions.

I want to restate that we must act together to resolve these issues. I am committed to exploring all options with all interests to find long-lasting and satisfactory solutions to the difficult challenge of meeting the water needs for all interests in the Klamath Basin.

Thank you, Mr. Chairman, for the opportunity to address this Committee. I would be happy to address any questions that you or other members of the Committee may have.

The CHAIRMAN. Dr. Lewis?

STATEMENT OF WILLIAM M. LEWIS, JR., CHAIRMAN, COMMITTEE ON ENDANGERED AND THREATENED FISHES IN THE KLAMATH RIVER BASIN, NATIONAL RESEARCH COUNCIL/NATIONAL ACADEMY OF SCIENCES

Mr. LEWIS. My name is William Lewis. I am a faculty member at the University of Colorado in Boulder. I am currently serving as Chair of the National Research Council's Committee on Endangered and Threatened Fishes in the Klamath River Basin. I have made a written statement that I hope can be accepted by the Committee as part of my testimony.

The CHAIRMAN. All of your written statements will be included in the record.

Mr. LEWIS. Thank you. The Committee, as you know, has completed part of its work and has presented that work in the form of an interim report and will complete the rest of its work over the next year, at which time it will file a final report. I am here to report on the content of the interim report.

As you said, Mr. Chairman, the considerable water resources of the Klamath River Basin are used extensively for irrigation. They are managed partly by private interests and partly by the Federal Government. The Federal Government's role is in managing the Klamath River project, which is about 90 years old now and involves contracts for delivery of water for irrigation purposes to about 200,000 acres of irrigated land in the upper part of the basin, for the most part. These water rights are very senior and they have provided water steadily.

In 2001, there was a severe drought. Because of the seniority of the water rights, normally, we would have expected water to go to farmers despite the drought. However, in 2001, two jeopardy opinions were issued on three species of fish, threatened and endangered fish, in the Klamath River Basin. The U.S. Fish and Wildlife Service issued a jeopardy opinion on two species of sucker that are limited in their distribution to the Klamath Basin, the lost river sucker and the short nosed sucker. The National Marine Fisheries Service, at the same time virtually, issued a jeopardy opinion on coho salmon in the Klamath River Basin.

Both of these opinions contained elements relating to water management, Mr. Chairman, as you mentioned. These opinions called for, among other things, which I will mention in a moment, higher water levels in Klamath Lake than had historically been maintained and higher flows in the lower part of Klamath main stem than had normally been maintained.

The Department of the Interior and other government agencies realized, of course, that the opinions were overriding to the contracts for water delivery. Consequently, there was virtually no delivery of water for agriculture because of the conflicting need to provide water for environmental purposes pursuant to these opinions.

The government, through the Department of the Interior, Department of Commerce, perceived that it would be good to have a review of the scientific basis for all elements of the opinion, including those related to water deliveries, and that was why the Committee was formed in the National Research Council to address that issue. The issue delivered to us for interim work was to evaluate the scientific validity or scientific basis for the elements of the opinion, particularly the prudent action components of the opinion.

The Committee met and considered a bushel full of documents and heard commentary and testimony and deliberated and reached a consensus opinion, which it delivered in its written report and has discussed since with all interested parties.

For the endangered suckers, through the U.S. Fish and Wildlife Service, the Committee found that components of the opinion, for the most part, were valid. For example, the U.S. Fish and Wildlife Service recommended that water diversion structures be screened because it has been known for 10 years that hundreds of thousands of these endangered suckers are entrained and killed in these management structures. They are not screened at present, none of them, and so forth. Other recommendations were endorsed by the Committee based on evidence presented in the opinion. However, the Committee could not endorse a recommendation on higher mean water levels because the evidence at hand, which is considerable, was not supportive of that recommendation.

For the National Marine Fisheries Service, likewise, the Committee supported two out of three components of the recommended alternative, but it could not support a recommendation on higher flows in the main stem because it did not feel that the evidence for that recommendation was whole and complete and convincing. In particular, the Committee was concerned that the National Marine Fisheries Service had not yet had the opportunity to analyze, model, predict the effect of releasing additional water that might be excessively warm on the welfare of the salmon in the main stem.

The Committee will now proceed with additional studies and with a wider-ranging inquiry into the requirements of these fish for the long-term future. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Dr. Lewis.

[The prepared statement of Mr. Lewis follows:]

Statement of William M. Lewis, Jr., Ph.D., Chairman of the Committee on Endangered and Threatened Fishes in the Klamath River Basin, National Research Council, National Academy of Sciences, and Professor of Environmental Science, Director, Center for Limnology, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, Colorado

Good morning, Mr. Chairman and members of the Committee. My name is William M. Lewis, Jr. I am professor of Environmental Science and Director of the Center for Limnology at the University of Colorado's Cooperative Institute for Research in Environmental Sciences. Presently I am serving as chair of the National Research Council's Committee on Endangered and Threatened Fishes in the Klamath River Basin. The National Research Council (NRC) is the operating arm of the National Academy of Sciences, National Academy of Engineering, and the Institute of Medicine; it was chartered by Congress in 1863 to advise the government on matters of science and technology. The work of the NRC committee that I now chair is sponsored by the Bureau of Reclamation and the U.S. Fish and Wildlife Service

of the Department of Interior and the National Marine Fisheries Service of the Department of Commerce.

My purpose before the House Committee on Resources today is to describe the content of the NRC committee's Interim Report, which was issued in February 2002, and the means by which the NRC committee reached the conclusions given in this report.

The Klamath River Basin has an abundance of aquatic environments, including perennial streams and rivers, shallow lakes, and wetlands. Among the great diversity of organisms that can be found in these environments are the Lost River and shortnose suckers and coho salmon belonging to the Southern Oregon/Northern California Coasts (SONCC) evolutionarily significant unit (ESU) of this species. The Lost River and shortnose suckers are restricted in distribution to the Klamath River Basin, while the SONCC coho salmon is found in the Klamath River Basin and in adjoining river basins. Because of low abundance and restricted distribution, the Lost River and shortnose suckers were listed Federally as endangered under the Endangered Species Act (ESA) in 1988. For similar reasons, the Klamath Basin coho salmon was listed as threatened under the ESA in 1997.

The Lost River and shortnose suckers are large, long-lived species that once reached great abundances in the Klamath River Basin. By the 1960s, it became clear that these species had decreased greatly in abundance. Because excessive harvesting was considered a contributor to decline in the populations, fishing was restricted and presently is essentially prohibited. The populations remain small, however, as compared with their very high abundances in the early part of the 20th century. Factors that may explain the failure of these species to increase in abundance in the absence of harvest include pollution of Upper Klamath Lake with nutrients that cause harmful changes in its water quality, introduction of non-native species leading to increased predation and competition, blockage of tributaries used by some portions of the population for spawning, destruction of habitat, and entrainment of fish into water management structures.

The Klamath Basin coho also has shown great declines in abundance since the middle of the 20th century. Although no reliable population estimates are available, direct observation of spawning runs indicates that the native coho now is present only in small numbers, whereas it was earlier a major component of the total salmonid population in the Klamath Basin. Factors contributing to the decline of the coho may include excessive harvest, which is now largely curtailed, loss of tributary habitat, blockage of migration pathways, warming of waters in reservoirs and in tributaries where riparian vegetation has been removed and flows have been reduced, physical degradation of tributary habitat, introduction of large numbers of hatchery-reared coho on an annual basis, and manipulation of the hydrologic regime for water management purposes.

The extensive water resources of the Klamath River Basin are managed in large part by the U.S. Bureau of Reclamation (USBR) through its Klamath Project. The Klamath Project, which was initiated in 1908 and reached its present operating configuration in 1960, consists of an extensive system of canals, pumps, diversion structures, and dams capable of routing water to approximately 220,000 acres of irrigated farmlands in the Klamath Basin. At and below points of diversion and impoundment, the Klamath Project may be harmful to the welfare of the two endangered sucker species. Potential mechanisms of harm to the species that have been identified by Federal fisheries biologists and others include blockage of migration routes, entrainment of fish of all ages in canals and other management structures, and alteration of flows and water levels either with respect either to quantity or seasonal timing. These factors related to the Klamath Project are primarily of concern in Upper Klamath Lake and its outlet, the Lost River drainage including Clear Lake, and the Tule Lake sumps, which are hydrologically connected to the Lost River. Downstream, on the main stem of the Klamath River and its tributaries, the Klamath Project also potentially has adverse effects on the threatened coho salmon. The salmon, which presently cannot access portions of the Klamath River Basin above Iron Gate Dam, could be affected in a variety of ways by depletion of flows and alteration of seasonality of flows in the main stem through operation of the Klamath Project.

Because of the potential for connections between operation of the Klamath Project and adverse influences on the welfare of the two endangered sucker species and the threatened coho salmon population, the USBR prepared a biological assessment of the effects of Klamath Project operations for the two endangered sucker species (2001) and a separate, similar assessment for the coho salmon (2001). These assessments contain recommendations on lake levels and main-stem flows in the Klamath River that the USBR judged adequate for protection of the threatened and endangered species. The assessments were submitted to the USFWS for evaluation with

respect to the two sucker species and to the National Marine Fisheries Service for evaluation with respect to the coho salmon.

The USFWS and the NMFS both issued biological opinions and accompanying reasonable and prudent alternatives during 2001. In a detailed review of information on fish, water quality, and habitat as well as background information from the literature on the requirements of the species, the USFWS found that the proposals of the USBR would leave the two sucker species in jeopardy. As a reasonable and prudent alternative, the USFWS proposed screening of water management structures to prevent entrainment of suckers, establishment of adequate dam passage facilities, restoration of habitat, adaptive management of water quality, interagency coordination for operations during dry years, further studies of sucker populations, and a schedule of lake levels higher than those recommended by USBR in its assessment. Similarly, the NMFS found the proposals of USBR inadequate to avoid jeopardy of the threatened coho and proposed a reasonable and prudent alternative involving reduced rates of change in flow (ramping rates) below main-stem dams to prevent stranding of coho, interagency coordination, and minimum flows in the Klamath River higher than those proposed by the USBR.

During year 2001, a severe drought occurred in the Klamath River Basin. Having received the two biological opinions relevant to operation of the Klamath Project, the U.S. Department of the Interior (DOI) determined that it could not authorize delivery of water from the Klamath Project for agricultural use without first meeting the requirements for minimum lake levels in Upper Klamath Lake and for minimum flows in the main stem of the Klamath River below Iron Gate Dam. Thus, the availability of water through the Klamath Project to irrigators was severely restricted, and substantial loss of agricultural production occurred in the farmed areas normally served by the Klamath Project.

Following the irrigation season of 2001, the DOI requested that the National Academy of Sciences form a committee through the National Research Council to undertake a two-part study of the endangered and threatened species in the Klamath River Basin. The purpose of the first part of the study, which was completed in February 2002, was to analyze and reach conclusions about the scientific support for the biological opinions issued by the USFWS and the NMFS. The second part of the work, which will be in progress until May of 2003, involves a broader examination of the overall requirements for maintenance and welfare of the threatened and endangered fishes over the long term. The NRC committee met during November 2001 in Sacramento after reading the assessments, biological opinions, and related literature and data summaries relevant to the threatened and endangered fishes. At its meeting, the committee heard presentations from scientists involved in studying the fishes and their environment and took public testimony. The committee then began deliberations and came to consensus opinions that it refined over the next two months. The committee's interim report was peer reviewed and released by the NRC on January 31, 2002.

The NRC committee concluded that all components of the biological opinion issued by USFWS on the endangered suckers have substantial scientific support except for the recommendations concerning minimum water levels for Upper Klamath Lake. Despite the availability of a substantial amount of data collected by Federal scientists and others, no clear connection has been documented between low water level in Upper Klamath Lake and conditions that are adverse to the welfare to the suckers. For example, incidents of adult mortality (fish kills) have not been associated with years of low water level. Extremes of chemical conditions considered threatening to the welfare of the fish have not coincided with years of low water level, and the highest recorded recruitment of new individuals into the population occurred through reproduction in a year of low water level. Thus, the committee concluded that there was as of February 2002 no sound scientific basis for recommending an operating regime for the Klamath Project that seeks to ensure lake levels higher on average than those occurring between 1990 and 2000. At the same time, the committee could not find a sound scientific basis for operating the lake at mean minimum levels below the recent historical ones (1990–2000), as would be allowed under the USBR proposal. Operations leading to lower lake levels would require acceptance of undocumented risks to the suckers.

The NRC committee found a sound scientific basis for recommendations in the NMFS biological opinion involving coordination of operations and reduction of ramping rates for flows below the main stem dams. The committee did not, however, find sound scientific basis for NMFS recommendations on increased minimum flows in the Klamath River main stem. Tributary conditions appear to be the critical factor for the coho population, and are not addressed through operations of the Klamath Project. Increases in habitat associated with increased flows in the main stem were projected entirely through computer modelling and are subject to considerable

uncertainty. Even if additional habitat is achieved in the main stem through increased flows, benefits to the fish are very uncertain in view of the poor condition of tributary waters. Finally, the committee found that water needed to sustain higher flows in the main stem during dry years would likely be originating from reservoirs, and could during summer months result in additional warming of waters in the main stem, thus potentially having a negative effect on coho. The committee also concluded, however, that the proposals of the USBR are without significant scientific support insofar as they would allow operation of the river at lower mean water levels in the main stem than have historically been the case. Reduction of flows in the main stem to an additional degree would produce undocumented risks to the species.

The committee's conclusions are subject to modification in the future if scientific evidence becomes available to show that modification of flows or water levels would promote the welfare of the threatened and endangered species under consideration by the committee. The committee will make a more comprehensive and detailed consideration of the environmental requirements of the endangered suckers and threatened coho in the Klamath River Basin over the next year, during which time it will develop final conclusions.

Thank you for inviting me to testify. I would be happy to answer any questions the Committee might have.

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SUMMARY

The Klamath River Basin, which drains directly to the Pacific Ocean from parts of southern Oregon and northern California, contains endemic freshwater fishes and genetically distinctive stocks of anadromous fishes. Endemic freshwater fishes include the shortnose sucker (Chasmistes brevirostris) and the Lost River sucker (Deltistes luxatus). These long-lived and relatively large species, which live primarily in lakes but enter flowing waters or springs for spawning, were sufficiently abundant during the nineteenth and early twentieth centuries to support commercial fisheries. During the last half of the twentieth century, these species declined so much in abundance that they were listed in 1988 as endangered under the Federal Endangered Species Act (ESA). In addition, the genetically distinctive Southern Oregon/Northern California Coast (SONCC) coho salmon (Oncorhynchus kisutch), an evolutionary significant unit (ESU) of the coho salmon, depends on the Klamath River main stem for migration and on tributary waters for spawning and growth before entering the Pacific for maturation. The Klamath Basin coho has declined substantially over the last several decades and was listed as threatened under the ESA in 1997.

Factors contributing to the decline in abundance of the endangered suckers and threatened coho in the Klamath River Basin are diverse and, in some cases, incompletely documented. Factors thought to have contributed to the decline of the endangered suckers include degradation of spawning habitat, deterioration in the quality of water in Upper Klamath Lake, overexploitation by commercial and

noncommercial fishing (now regulated), introduction of competitive or predaceous exotic species, blockage of migration routes, and entrainment of fish of all ages in water-management structures. Factors contributing to the decline of coho salmon are thought to include earlier overexploitation by fishing as well as continuing degradation of tributary habitat and reduced access to spawning areas. The threatened coho salmon also may be affected by changes in hydrologic regime, substantial warming of the main stem and tributaries, and continuing introduction of large numbers of hatchery-reared coho, which are derived only partly from native stock.

The U.S. Bureau of Reclamation's (USBR) Klamath Basin Project (Klamath Project) is a system of main-stem and tributary dams and diversion structures that store and deliver water for agricultural water users in the Upper Klamath Basin under contract with the USBR. After the listing of suckers in 1988 and coho in 1997, the USBR was required to assess the potential impairment of these fishes in the Klamath River Basin by operations of the Klamath Project. In the assessments, which were completed in 2001, the USBR concluded that operations of the project would be harmful to the welfare of the listed species without specific constraints on water levels in the lakes to protect the endangered suckers and on flows in the Klamath River main stem to protect the threatened coho salmon.

After release of the USBR assessment on the endangered suckers (February 2001) and following procedures required by the ESA, the U.S. Fish and Wildlife Service (USFWS) in April 2001 issued a biological opinion based on an extensive analysis of the relevant literature and field data. The biological opinion states that the endangered suckers would be in jeopardy under USBR's proposed Klamath Project operations. The USFWS proposed a reasonable and prudent alternative (RPA) for operation of the Klamath Project. The RPA requires screening of water-management structures to prevent entrainment of suckers, adequate dam passage facilities, habitat restoration, adaptive management of water quality, interagency coordination in the development plans for operating the Klamath Project during dry years, further studies of the sucker populations, and a schedule of lake levels higher than those recommended by the USBR in its assessment.

The National Marine Fisheries Service (NMFS), which assumes responsibility for the coho because it is anadromous, issued a biological opinion in April 2001 indicating that the operation of the Klamath Project as proposed by the USBR assessment of January 2001 would leave the coho population in jeopardy. The NMFS formulated an RPA incorporating reduced rates of change in flow (ramping rates) below main-stem dams to prevent stranding of coho, interagency coordination intended to optimize use of water for multiple purposes, and minimum flows in the Klamath River main stem higher than those proposed by USBR.

During 2001, a severe drought occurred in the Klamath River Basin. The U.S. Department of the Interior (DOI) determined that the newly issued biological opinions and their RPAs must prevail; thus, water that would have gone to irrigators was directed almost entirely to attempts to maintain minimum lake levels and minimum flows as prescribed in the two RPAs. The severe economic consequences of this change in water management led DOI to request that the National Research Council (NRC) independently review the scientific and technical validity of the government's biological opinions and their RPAs. The NRC Committee on Endangered and Threatened Fishes in the Klamath River Basin was formed in response to this request. The committee was charged with filing an interim report after approximately less than 3 months of study and a final report after about 18 months of study (see statement of task, Appendix). The interim report, which is summarized here, focuses on the biological assessments of the USBR (2001) and the USFWS and NMFS biological opinions of 2001 regarding the effects of Klamath Project operations on the three listed fish species. The committee conducted a preliminary assessment of the scientific information used by the agencies and other relevant scientific information, and has considered the degree to which the biological opinions are supported by this information. During November and early December 2001, the committee studied written documentation, heard briefings from experts, and received oral and written testimony from the public, and used this information as the basis for its interim report.

THE COMMITTEE'S PRINCIPAL FINDINGS

The NRC committee concludes that all components of the biological opinion issued by the USFWS on the endangered suckers have substantial scientific support except for the recommendations concerning minimum water levels for Upper Klamath Lake. A substantial data-collection and analytical effort by multiple agencies, tribes, and other parties has not shown a clear connection between water level in Upper Klamath Lake and conditions that are adverse to the welfare of the suckers.

Incidents of adult mortality (fish kills), for example, have not been associated with years of low water level. Also, extremes of chemical conditions considered threatening to the welfare of the fish have not coincided with years of low water level, and the highest recorded recruitment of new individuals into the adult populations occurred through reproduction in a year of low water level. Thus, the committee concludes that there is presently no sound scientific basis for recommending an operating regime for the Klamath Project that seeks to ensure lake levels higher on average than those occurring between 1990 and 2000. At the same time, the committee concludes that there is no scientific basis for operating the lake at mean minimum levels below the recent historical ones (1990–2000), as would be allowed under the USBR proposal. Operations leading to lower lake levels would require acceptance of undocumented risk to the suckers.

For the Klamath Basin coho, the NMFS RPA involves coordination of operations as well as reduction of ramping rates for flows below the main-stem dams and increased flows in the Klamath River main stem. Coordination and reduced ramping rates are well justified. However, the committee did not find clear scientific or technical support for increased minimum flows in the Klamath River main stem. Although the proposed higher flows are intended to increase the amount of habitat in the main stem, the increase in habitat space that can occur through adjustments in water management in dry years is small (a few percent) and possibly insignificant. Furthermore, tributary conditions appear to be the critical factor for this population; these conditions are not affected by operations of the Klamath Project and therefore are not addressed in the RPA. Finally, and most important, water added as necessary to sustain higher flows in the main stem during dry years would need to come from reservoirs, and this water could equal or exceed the lethal temperatures for coho salmon during the warmest months. The main stem already is excessively warm. Juvenile fish living there probably tolerate its temperature only because of the presence of groundwater seepage or small tributary flows that provide pockets of cool water. Addition of substantial amounts of warm water could be detrimental to coho salmon by reducing the size of these thermal refuges. At the same time, reduction in main-stem flows, as might occur if the USBR proposal were implemented, cannot be justified. Reduction of flows in the main stem would result in habitat conditions that are not documented, and thus present an unknown risk to the population.

CONCLUSION

On the basis of its interim study, the committee concludes that there is no substantial scientific foundation at this time for changing the operation of the Klamath Project to maintain higher water levels in Upper Klamath Lake for the endangered sucker populations or higher minimum flows in the Klamath River main stem for the threatened coho population. The committee concludes that the USBR proposals also are unjustified, however, because they would leave open the possibility that water levels in Upper Klamath Lake and minimum flows in the Klamath River main stem could be lower than those occurring over the past 10 years for specific kinds of climatic conditions. Thus, the committee finds no substantial scientific evidence supporting changes in the operating practices that have produced the observed levels in Upper Klamath Lake and the observed main-stem flows over the past 10 years.

The committee's conclusions are subject to modification in the future if scientific evidence becomes available to show that alteration of flows or water levels would promote the welfare of the threatened and endangered species under consideration by the committee. The committee will make a more comprehensive and detailed assessment of the environmental requirements of the endangered suckers and threatened coho in the Klamath River Basin over the next year, during which time it will develop final conclusions.

The CHAIRMAN. We thank the testimony of our witnesses here at this time. This is an extremely important issue we have in front of us.

You folks notice on that back wall there is a clock and it has got two white lights on. That means that members of this Committee are going to jump up and leave, so we are going to recess for a moment and go over and vote on whatever this vote is and then we

will be back. Do not go away. We need you here because we fully intend to ask you a number of questions.

We will be recessed for just a short time.

[Recess.]

The CHAIRMAN. We again thank the witnesses for their very interesting and excellent testimony. I really kind of get the feeling we cut you off a little short on that, is that right? If you want to take another couple minutes and get in something else, we will do that and then go to questions.

Ms. WOOLDRIDGE. No, I am fine.

The CHAIRMAN. OK.

Ms. WOOLDRIDGE. Thank you.

The CHAIRMAN. We will turn to the gentleman from California, Mr. Calvert, for any questions he may have.

Mr. CALVERT. I thank the Chairman.

Mr. Chairman, before I chaired the Water and Power Subcommittee, I had the privilege of chairing the Energy and Environment Subcommittee on the Science Committee and we were involved with various studies that, unfortunately, came out questionable, and I am somewhat troubled that science sometimes now is perceived sometimes as being predetermined outcomes, or worse, the politicization of science that some universities and possibly researchers in their search for government grants and awards may again perceive to change the outcome of good science in order to have the science of the day.

In particular, when I chaired that Committee, we had issues with a product called MTBE, which was put into the formulation of gasoline as an oxygenate, which at the time, I think the science, the EPA was moving too fast in order to understand the long-term consequence of what MTBE would do to water throughout California and certainly wherever MTBE was used. Also, in particulate studies that were done on small particulates that I think when we got into the issue of asthma and asthmatics for children, whether or not the issue of indoor air pollution was adequately understood in relation to outside air.

Now, here we are today, again, and this is very troubling, where science is again questioned because potentially people may have used anecdotal information rather than good science to make decisions that have a real effect on people and their lives and their quality of life and their entire property rights and et cetera.

[The prepared statement of Mr. Calvert follows:]

Statement of The Honorable Ken Calvert, a Representative in Congress from the State of California

I would like to commend the National Academy of Science for their quick action in reviewing the information used to recommended operations for the Klamath Project last year. This open peer review is welcomed and will help to ensure that policy decisions are based on defensible data and not from other influencing factors. The desired outcome is to provide recommended actions supported by sound scientific data that will allow the project to be operated for the benefit of the water users while also supporting the continued existence of the endangered species.

Last year about this same time, Reclamation had prepared their Biological Assessment for the Klamath Project Operations; the Fish and Wildlife Service and the National Marine Fisheries Service were preparing their Biological Opinions; and the Klamath Project Water Users were preparing their plans for a dry year.

Based on the Reasonable and Prudent Measures of the Biological Opinions of the Fish and Wildlife Service and the National Marine Fisheries Service, the Project

was operated to avoid jeopardizing the shortnose sucker, the Lost River sucker and the coho salmon. As a result, little of the Project water was left for the water users crops. According to recent studies, the economic impacts exceeded 135 million dollars. This burden was shouldered by approximately 1,400 farmers managing more than 200,000 acres of farmlands in California and Oregon.

This action led to questions regarding the need to operate the Klamath Project solely for the benefit of the endangered species. Several members of this committee requested the independent scientific review of the data used to make the recommendations for the Klamath Project Operations; to determine if the action was justified to ensure the continued existence of these endangered species. I want to thank Secretary Norton for requesting this National Academy of Science independent review.

In light of other issues that have come before this committee in recent weeks, the Canadian Lynx in northern Washington, and the endangered species critical habitat decisions on the Platte River in Nebraska, it is very important that sound science and the best information available be used in making resource management decisions. Whether it be the designation of critical habitat or the operations of a water project, the decisions have a significant impact not only on the endangered species, but also on the people that use these resources. Therefore, a solid foundation of sound science is imperative to make good decisions.

Mr. CALVERT. So I guess my question to the panel to start off with, do you see that in recent times that science is not adequate enough to be making some of these decisions that have a real effect on people throughout this country? We can start off with Sue Ellen Wooldridge.

Ms. WOOLDRIDGE. Thank you. I think what I can say is that I agree wholeheartedly with you that we have to have a perception of objectivity, and to that extent, the processes that we go through to put together our studies is critical for engendering confidence and objectivity in our decisions.

Mr. CALVERT. Mr. Hogarth?

Mr. HOGARTH. I think, yes, we agree that sometimes the science is not what we would like to have to make these decisions, but we do not have that option under the Endangered Species Act. The courts have ruled in most every case we have had that we have to say yes or no. I think if you go back and look back in the history, we used to say in biological opinions that there was insufficient data to make a decision, and that is what the biological opinion would say. We have lost every one of those in court. We have to make a determination based on the best science we have.

For example, in coho, I think if you look at the review that has been done by the National Academy, it states very clearly there is a lack of data and I think the lack of data is a real problem we have in managing our fisheries in the U.S. today. If you look at 900 species that we are responsible for managing, we basically have information on about 300 to 400 of those species.

Mr. CALVERT. Dr. Lewis?

Mr. LEWIS. I think the Committee could easily see that the agencies were in a difficult position in certain cases where there was not a sufficient amount of information to fully support a component of the opinion that the agencies felt was important. We were charged with evaluating the scientific support or scientific validity of each component of the opinion, but at the same time, we realized they had to give an opinion based on professional judgment if they did not have a complete suite of scientific information to support that opinion.

Mr. CALVERT. Mr. Chairman, in closing, the comment I would make, and I think not just with Fish and Wildlife, but EPA and other regulatory agencies, I think there is an inherent conflict of interest when the research and the science is being done by the regulators themselves. We have brought this up before in EPA, and I think this is also the case in other regulatory agencies, that we ought to look at separating the science from the regulatory function in the future and I hope we can, as a Committee, look into that. Thank you.

The CHAIRMAN. I thank the gentleman.

The gentleman from California, Mr. Miller.

Mr. MILLER. Mr. Lewis, if I might, Mr. Hogarth just said that under the Endangered Species Act, which I think the standard was the best scientific information available, they really did not have much of an option here in terms of making this determination. When you reviewed the science here, your test was what? It was not that standard, is that—

Mr. LEWIS. My test and the test of the Committee is, as given by the contract between the National Academy of Sciences and the agencies—

Mr. MILLER. Right.

Mr. LEWIS. —and it was a test of scientific validity.

Mr. MILLER. Where does the phrase "substantial scientific" come from? Where is that?

Mr. LEWIS. I cannot quote the task verbatim, but it is available to you at the end of the interim report as an appendix.

Mr. MILLER. But the threshold for you was different than the threshold for the agencies in their opinion?

Mr. LEWIS. We do not know what threshold the agencies use. We only know—

Mr. MILLER. You know the law.

Mr. LEWIS. —what was assigned to us.

Mr. MILLER. You know what the law requires, right?

Mr. LEWIS. Yes.

Mr. MILLER. Mr. Hogarth, does the law not dictate to use the best scientific information available?

Mr. HOGARTH. Yes. We have to make a jeopardy determining using the best science that we have before us.

Mr. MILLER. And in your view, the science was valid, as I understand in your statement, was valid for those jeopardy opinions and the other works. Yours was simply on the level of the lake, is that right?

Mr. LEWIS. We evaluated each component of the reasonable and prudent alternative for each of these opinions one by one because each one had separate scientific justification or basis, and we found in the case of each of the agencies, the recommendations related to water, not well enough supported scientifically that we could vouch for its scientific validity.

Mr. MILLER. Which means what?

Mr. LEWIS. Which means they did not have enough evidence to prove their point, in our judgment.

Mr. MILLER. So then the conclusion was that there was no scientific basis?

Mr. LEWIS. That is right.

Mr. MILLER. That is the conclusion of not enough evidence?

Mr. LEWIS. That is right.

Mr. MILLER. So there could be a basis for this determination under further study, could there not be?

Mr. LEWIS. Oh, yes. We have not precluded the possibility that someone could prove by any reasonable scientific standard or technical criterion that these water levels are needed.

Mr. MILLER. And that determination could be effective. This is an unadjudicated basin, if I understand, is that correct?

Mr. LEWIS. I think the Oregon adjudication is in progress and there is not any California adjudication.

Mr. MILLER. So the question of the lake level is not settled by any means.

Mr. LEWIS. No. I do not think any scientific matter of this type is ever finally settled for good.

Mr. MILLER. Yes, but there is also outside action, as I understand it, in the little involvement that I have had. I mean, you have treaty rights to be adjudicated, you have further findings under the Endangered Species Act in terms of what is going to happen here. You have preexisting rights to some of the farm water claims, if I understand it correctly, all of which can impact on whether or not water has to be held in this lake or not held in this lake to meet those needs or not meet those needs in different water years.

Mr. LEWIS. That is correct.

Mr. MILLER. So the suggestion has been here, and I am not saying this is your characterization, but that there is no scientific evidence for doing that, so now the farmers can have all the water they want. That is not a proper conclusion, if I understand all of the undone or the yet-to-be-resolved issues resolving this basin.

Mr. LEWIS. The Committee did not make any judgment about the availability of water to anyone. It only made a judgment as to the validity of the biological opinion and its components. So the disposition of water, of course, is a legal matter that we did not deal with.

Mr. MILLER. So as I understand it, the jeopardy decision on the coho or on the suckers, you left in place. The question is whether or not the maintenance of the lake level for that purpose is valid or not.

Mr. LEWIS. Yes, I think that is correct.

Mr. MILLER. And that has not been resolved because there is further review that has to take place in that final determination.

Mr. LEWIS. Well, let me clarify one thing. The Committee was not asked to evaluate the validity of the listing of the species or of their jeopardy. It was asked to evaluate the validity of the components of the opinion, which it did, and it separated them into two groups, those that it felt were well supported, and that is those that seemed to be in line with the maintenance of welfare for these fish, and those that did not meet that standard.

Mr. MILLER. So your difference, if I might, Mr. Chairman, your difference is on the, I guess the mechanism that was in place to meet the requirements of those jeopardy opinions, that the lake level was, for the moment, you determined was improper?

Mr. LEWIS. Well, it just was not supported sufficiently and there is quite a bit of information, so we were able to weigh the

information, the field information, if you wish, against that component of the opinion and found out that the two were not mutually supportive.

Mr. MILLER. Since your finding, there have been a couple of scientists whose work was used or reviewed by your panel and my understanding is they have differed with your interpretation or said that it has been misused or misconstrued, and I do not want to put words in people's mouths, but essentially, they think the wrong conclusions were drawn or the finding of their conclusion was wrongly interpreted. Would that be reviewed before the final report?

Mr. LEWIS. We have had many responses to the report from people who were involved in producing the information. A number of those people are in disagreement with us or upset with us, have voiced their opinion that we need to reconsider and so forth. We have taken all of those opinions, oral and written, and put them in our file of reading to be done for the next phase of this report.

The CHAIRMAN. The time—one more.

Mr. MILLER. If I just might, Mr. Chairman, here, we are determining whether this is good science or bad science or sufficient science. It would seem to me that as you issue a final report, you must look at the comments of the people on whose work you have relied and made a determination as to the results of that work and to a conclusion about that work that may differ. Otherwise, you are somewhat engaging in the process that people are accusing others of doing, it would seem to me.

Mr. LEWIS. Yes. As I said, we had—

Mr. MILLER. But you consider the body of evidence, then the other side gets, gee, that is a misinterpretation of that.

The CHAIRMAN. The gentleman will answer, and then we will go on.

Mr. LEWIS. Yes. We have, as I say, assembled all this commentary in both written and oral commentary and we will read it and take it into consideration as we work further.

The CHAIRMAN. The time of the gentleman from California has expired.

Mr. MILLER. Thank you, Mr. Chairman.

The CHAIRMAN. An interesting line of questioning.

The gentleman from Oregon?

Mr. WALDEN. Thank you very much, Mr. Chairman.

I want to ask Dr. Lewis, were people able to submit information to you at the beginning of your analysis, in addition to the science, the BA and the BO that were used?

Mr. LEWIS. Yes.

Mr. WALDEN. And did you take that information that was submitted into consideration before you issued your interim report?

Mr. LEWIS. Yes.

Mr. WALDEN. So people who may have had issues with the process had an opportunity to comment?

Mr. LEWIS. Yes, although they had not read our conclusion, so—

Mr. WALDEN. Correct.

Mr. LEWIS. —it is fair that some people who read our conclusions would differ from our conclusions. That is not too surprising.

Mr. WALDEN. Certainly. I want to read from the study, because I think this is really important. A substantial data collection and analytical effort has not shown a connection between water level in Upper Klamath Lake and conditions that are adverse to the welfare of the suckers. Incidents of adult mortality, fish kills, for example, have not been associated with years of low water level. Also, extremes of chemical conditions considered threatening to the welfare of the fish have not coincided with years of low water level and the highest recorded recruitment of new individuals into the adult populations occurred through reproduction in a low water year. Thus, the Committee concludes there is no sound scientific basis for recommending an operating regimen for the Klamath project that seeks to ensure lake levels higher on average than those occurring between 1990 and 2000.

But then you went on to say, at the same time, the Committee concludes there is no scientific basis for operating the lake at mean minimum levels below recent historical ones, as would be allowed under the USBR proposal. Operations leading to lower lake levels would require acceptance of undocumented risk to the suckers.

Is it not fair to say, then, based on this, that, in essence, they did not have the science to make the decision how to operate the lake?

Mr. LEWIS. Well, they quite properly collected relevant information on the environmental characteristics of the lake, and this was not just the Federal agencies, but also the tribes and others, and they quite properly collected information on the fish. That information, when taken as a package, did not support the notion that higher lake levels work to the welfare of the fish.

There is some pretty good theoretical basis for expecting that higher lake levels would be beneficial, but the data contradict that sort of theory, and—

Mr. WALDEN. So the data that they had contradicted the theory of higher lake levels?

Mr. LEWIS. That is right. That is right.

Mr. WALDEN. And that is what your Committee found?

Mr. LEWIS. Yes.

Mr. WALDEN. Obviously, there are lots of issues involved in this basin. We have tribal rights, certainly water rights, and certainly their heritage to respect, water for the farmers, water for the fish. Can we talk about what you found in the data that has led to the decline of the sucker populations in the lake, and further, did you find any data that indicated what historical counts were for suckers? Have you ever run across anything that shows how many suckers there were at any given time and how many there were when they were listed and how many were trying to—

Mr. LEWIS. The U.S. Fish and Wildlife Service has done an excellent job of compiling all the historical information on suckers. We do not have any accurate population estimates for the suckers either earlier or now, but we know that the runs of these suckers into tributary waters were so great that it is said that a farmer with a pitch fork could load a pick-up truck with these fish in an afternoon. So obviously, there was a huge population of these fish originally.

There was a large commercial fishery during the early part of the 20th century and it was instrumental in depleting the numbers of these—these fish are very vulnerable when they migrate to spawn—followed by a very popular snag fishery for recreation, and the snag fishery polished off a number of the breeding groups of these fish and, thus, some of the breeding areas are not used simply because the genetic stocks are not available.

So over-fishing was the first cause of decline of these fish, but fishing was stopped in 1987 and since then, the fish have not recovered.

Mr. WALDEN. Right.

Mr. LEWIS. They have persisted, but they have not recovered, and that is the concern.

Mr. WALDEN. My understanding is that some 85 percent of their original habitat is blocked by an irrigation dam.

Mr. LEWIS. There are some serious, long-recognized problems with these fish that do not have to do with water level in the lake. These fish are blocked from entering their largest spawning area, that is the Sprague and Williamson Rivers, by a dam, the Chiloquin dam, that can only be passed by a very few fish.

In addition, the water management structures that are operated by Bureau of Reclamation and others involve as many as—well, throughout the whole basin, there are 200-and-some diversion points for water. One of them, the "A" canal, can take as much as 1,000 cubic feet per second. It is already known that these structures kill hundreds of thousands of young suckers every year right now and they could be screened, at least the biggest ones, but they have not been.

Mr. WALDEN. So screening would be important. Unblocking the traditional habitat would be important. There are a number of steps that have been recommended over the years, have there not been, that have not been implemented?

Mr. LEWIS. Yes. For 10 years, the U.S. Fish and Wildlife Service has been saying that we need to provide better passage for these fish and we need to screen these water management structures so they do not kill the fish.

Mr. WALDEN. Mr. Chairman, could I ask one more question? I know I have gone over.

The CHAIRMAN. One more.

Mr. WALDEN. On the coho side, down the river, could you describe for me the process in terms of habitat and water quality that occurs as Scottish Power keeps or releases water to produce electricity, because my understanding is that there are some 1,300 CFS that has to be maintained going down the river, but yet some of that comes and goes. It sort of oscillates. What does that do to the habitat? What does that do to the water quality?

Mr. LEWIS. I think you are addressing the question of the so-called ramping rate—

Mr. WALDEN. OK.

Mr. LEWIS. —which is the rate at which flow fluctuates below a point of control. In this case, the point of control is Iron Gate Dam.

Mr. WALDEN. Right.

Mr. LEWIS. And the National Marine Fisheries Service found that the ramping rate is probably excessively high now and

recommended that the rate be reduced, i.e., that the power company be required to be more gradual in adjusting flow. The Committee found that that recommendation was well supported.

Mr. WALDEN. OK. So do we end up with fish that get stranded?

Mr. LEWIS. Yes. Stranding has been observed and documented.

Mr. WALDEN. All right. Thank you, Mr. Chairman. Thank you.

The CHAIRMAN. I thank the gentleman.

Mr. Udall?

Mr. UDALL OF NEW MEXICO. Thank you, Mr. Chairman.

New Mexico, I think, is in a similar situation to what you are experiencing in the Klamath Basin. We have an arid State which has seen rapid population increases and a proliferation of listing of endangered species in its rivers. For example, the Rio Grande silvery minnow and the Peco Spontano shiner and the Arkansas River shiner, and so I am very interested in the way that we are approaching this.

It seems to me that to jump to conclusions early on science is really not the way to go, and so I want to explore with you a few questions on specifics and recovery of species.

First of all, in the recovery of species, particularly aquatic species, it is often necessary and sensible to spawn fish in captivity and release them into the wild at a stage where their survival rates increase. Some take the position that only fish spawned in the wild should count under the ESA, though the fish are genetically identical. What is the position of Interior or the National Marine Fisheries Service or anybody here on the panel on the issue of wild versus hatchery spawned fish in recovery programs or for listing?

Ms. WOOLDRIDGE. Why do you not go?

[Laughter.]

Mr. HOGARTH. I think we in National Marine Fisheries Service have always tried to look at the hatchery influence on the populations and whether they were true genetically the same. As you are well aware, or may not be aware, right now, we are evaluating the hatchery policy for all the salmon species on the West Coast to look at the genetic integrity and what should be the role of hatcheries in the recovery.

That process will not be completed until later this year, but it came about as the result of a court case, so we are evaluating that issue right now. But in the past, we have always sort of looked at the hatchery fish and how these hatchery fish could be marked and could you take the hatchery fish while you were letting the wild fish remain in the population to increase the wild population? We used markings to do that and let the hatchery fish be the ones that were taken commercially and recreationally.

But we have not formalized what will be our policy. We are working on it right now, as to what it will be. We have to report back to the court later this year, and as a result, we will be looking at about 23 out of the 25 ESUs that we have listed for salmon.

Mr. UDALL OF NEW MEXICO. So you do not have a position as of yet on that?

Mr. HOGARTH. No. We do not think, basically, that you can rely on hatchery fish totally for recovery, but we are trying to determine the role we think that they can, what percentage and how do you

operate the hatcheries to make sure that you maintain the genetic integrity of the wild stocks, and that is the key question.

Ms. WOOLDRIDGE. With respect to Interior, on the Klamath Basin itself and on these particular species, there was a tribal hatchery at one time for trying to rear hatchery sucker, which apparently did not pan out too well. I am told differently that the species were just not able or that there just was not enough money put in to make it work well.

With respect to the coho, during the last relicensing, when PacifiCorp went through its last relicensing, the predecessor to Scottish Power, they established a hatchery at the base of Iron Gate Dam where coho are reared. My understanding, however, is—and I learned this actually in the NRC report, that those coho are a mix of breeding stock from Southern Oregon, Northern Coastal, and apparently another Columbia coho.

Mr. UDALL OF NEW MEXICO. Does Interior take a position now on whether or not what percentage is wild versus hatchery as far as the spawned fish in recovery programs?

Ms. WOOLDRIDGE. No, I would rather not, and I am happy to provide an answer. I am simply not prepared to talk about that today.

Mr. UDALL OF NEW MEXICO. Mr. Chairman, if I might, one of the issues here is State and local scientists that are a part of this process. I mean, we have many in New Mexico that are studying these issues that I have just talked about and I am wondering how you use, the Federal agencies use that detailed experience of the local river, the biology of the species listed as endangered, how do Federal programs effectively use the knowledge of these local scientists and agencies as a part of this process?

Mr. HOGARTH. From our perspective, they are a part of—if we get a petition to list or things like that, we use the States as part of the team that looks at whether they should be listed, and then when we do the recovery, teams in status and recovery, we use the State as a part of that process.

In California right now, we are working with California to utilize some of the salmon money they have for habitat restoration, particularly in the Scott and Shasta Rivers where we think there are some real habitat problems that need to be addressed to help this overall coho question.

So we use the States quite a bit. We consider them our partners as we go through this process.

Ms. WOOLDRIDGE. That is the same for Interior. We think it is very important that we are taking into account not just the local academics, but also the State Fish and Wildlife folks and others who have been working on these issues.

In this particular instance, we used both Oregon and UC-Davis in looking at the studies that have been done and the conclusions that have been drawn quite a bit.

Mr. UDALL OF NEW MEXICO. Thank you, Mr. Chairman.

Mr. CALVERT. [Presiding.] I thank the gentleman.

Mr. Elton Gallegly has asked unanimous consent to submit his opening remarks. If there is no objection, so done.

[The prepared statement of Mr. Gallegly follows:]

Statement of The Honorable Elton Gallegly, a Representative in Congress from the State of California

Mr. Chairman, I believe we should do everything prudently possible to protect the environment. But when given a choice between making people suffer and protecting a fish habitat, I have always believed the people come first. But when you make people suffer based on faulty science that also harms the fish'that is unconscionable.

According to a National Academy of Science interim report, that is what happened in Klamath, Oregon. The National Marine Fisheries Service and the U.S. Fish and Wildlife Service withheld vital water from more than 1,200 farmers and their families last year, resulting in more than $200 million in lost revenue to the Klamath community. This was done supposedly to protect two species of sucker fish in Klamath Lake and the coho salmon in the Klamath River.

But, the NAS reports, withholding water from the farmers probably did nothing to help the fish and in fact may have harmed them. Based on faulty science, the Federal Government wrongly caused immense suffering. This is unacceptable.

Efforts are underway to protect Klamath farmers in the future. The Klamath River Basin Federal Working Group is proposing short- and long-term solutions to get water to competing interests. In April, the Commerce Department will release its plan on operating the Klamath irrigation project during the next growing season. Secretary Evans has made it a top priority to prevent a repeat of last year's events.

But what about other communities? Mr. Chairman, it is my sincere hope that this oversight hearing will lead to agencies being held to a high scientific standard, so we are not here next year discussing the financial collapse of another farming community.

Mr. CALVERT. With that, Mr. Flake, you are recognized.

Mr. FLAKE. No questions.

Mr. CALVERT. OK. Mr. Radanovich?

Mr. RADANOVICH. I yield my time to the gentleman from California, Mr. Herger.

Mr. CALVERT. Mr. Herger is recognized.

Mr. HERGER. Thank you very much, Mr. Chairman, and thank you, Mr. Radanovich. I do appreciate the opportunity to be able to sit on your Committee, with your Committee today on this incredibly important issue. Of course, the Klamath Basin, I share with my good friend, the distinguished member from Oregon, Mr. Walden, and represent the California side, so again, I thank you very much.

Also, I request that I have my full statement included in the record.

Mr. CALVERT. Without objection, so ordered.

Mr. HERGER. Thank you very much.

[The prepared statement of Mr. Herger follows:]

Statement of The Honorable Wally Herger, a Representative in Congress from the State of California

Thank you, Chairman Hansen and Members of the Resources Committee, for the time and for the opportunity to be here today. I represent the area that comprises the California side of the Klamath Basin. As such, I very much appreciate the opportunity to be here today on their behalf on this critically important issue.

This situation is the "poster child" for the need to update the Endangered Species Act! Almost 100% of the water was taken from 1,500 family farmers based only on the speculation of a few Federal scientists. A community of 70,000 people was brought to the brink of economic collapse at the stroke of a scientist's pen. Thousands of people's lives may never be the same.

The National Academy of Sciences (NAS) study proves suspicions that this was political! People on the ground knew that the science was wrong and that the decision to take water away was not grounded in fact or science. We said it was nothing more than a parting gift by Clinton-era political appointees to the radical environmentalists, who want to run these hard working farmers and war veterans off this land! The NAS study proves it!

Farmers must get water this year! Sue Ellen, let me say that we must get these farmers water this year. What happened can never be rectified, but this Interior Department can make certain it NEVER happens again. And we must have an Operations Plan in place by April 1! I am VERY concerned about reports that the regulatory agencies have already indicated that they might not have enough time for consultation. Please pass along the message that we want a plan in place by April 1!

The responsible decision-makers should be here to be accountable for their actions! I am very disappointed that they are not here to answer to Congress and to the American people for what happened.

Again, thank you, Mr. Chairman, for the time.

Mr. HERGER. Mr. Chairman and members, this situation is the poster child for the need to update the Endangered Species Act. One hundred percent of the water was taken from 1,500 family farmers based on the speculation of a few, a handful of biologists, of Federal biologists. A community of some 70,000 people was brought to the brink of economic collapse at the stroke of a scientist's pen. Thousands of people's lives may never be the same.

Farmers must get water this year. Ms. Wooldridge, let me say that again, that we must get these farmers water this year. What happened can never be rectified. This Interior Department can make certain it never happens again, and we must have a decision by April 1.

I want to say that there is urgency here. I am very concerned about the reports that the regulatory agencies have already indicated that they might not have enough time for consultation. Ms. Wooldridge, please pass along the message that we want a plan in place by April 1.

My serious concern here, Sue Ellen, is that the National Academy of Sciences report is hard evidence that the science that formed the basis of this decision was bogus. It confirmed what many of us have suspected all along. So then it begs the question, how much water is enough for the fish? Seventy percent of the water is already dedicated for fish. How much is enough?

My strong concern is that the same people who did this to us would be the ones who are making this determination again, and my question to you is, what is being done to prevent this?

Ms. WOOLDRIDGE. The answer to that is answered if I can kind of go back and respond to some of the other things you said. With respect to—we are doing everything we can to make sure that we, by April 1, have measures in place that would allow the operation of the project. Having said that, however, we are not going to cram down scientific conclusions. We are going to let the process work.

But our new Director of the Fish and Wildlife Service, who is sitting right behind me, has added some steps in his process to make sure that the review of the biological opinions and the creation of the biological opinions are going as quickly as possible, that they are given the highest priority, that the people working on it have others that they can look to to test their thinking on it and have other additional input from other biologists within the Fish and Wildlife Service so that we have sort of augmented the staff that are looking at this.

Under the Endangered Species Act, if the agency that is the action agency—in this case, it is the Bureau of Reclamation—needs to begin operations or needs to begin the act that they are seeking

consultation on, they can do so so long as there is not an irretrievable or irreversible commitment of resources to the detriment of the species while they begin operations, and it is called a 7(d) option.

Regardless of whether we have final opinions by April 1, we intend to begin operations on April 1 and it is our belief that we should at least have draft opinions by that point in time, and that plus the 7(d), we think, is sufficient to allow us to let the farmers on the ground know what they can expect in terms of operations, at least until those final opinions are given and then banks can loan money and other things can happen and they can buy seed or do those things which they need to do to plan their economic lives.

Mr. HERGER. I thank you very much, and I thank you, Mr. Chairman and members.

Mr. CALVERT. I thank the gentleman.

Ms. Solis?

Ms. SOLIS. Thank you, Mr. Chairman.

Just briefly, for any of the panelists, if you could comment on whether the interim report argues for any amendments, and if so, for ESEA, can you spell those out or give us some idea of what recommendations you see?

Ms. WOOLDRIDGE. I am sorry, let me ask again. Your question is whether the NRC does give us, is supportive of changes to the Endangered Species Act that we are supporting or you are prepared to talk about? We are not prepared to talk about that here at this hearing and I think it would be better that I do not speak to that. We have been looking at the entire range of our regulatory options as we implement the Endangered Species Act. There are a lot of people—as you know, I know that there are some bills that are pending and we have not spoken to those and we are just in the process of putting together our thinking about that.

Ms. SOLIS. Also, then, given the nature of the interim NAS report and the uncertain nature of the science in the Klamath Basin, why is it that the Department is proposing a 10-year operating plan for the Klamath project instead of a 1-year plan?

Ms. WOOLDRIDGE. A 10-year plan gives you more flexibility. If you know that you are going to run the project a certain way over a longer course of time, it gives the biologists more flexibility to look at what may be shortages in 1 year might be acceptable if you know that you are going to be operating in a different way if you have a different type of hydrologic year. So the idea was that over a 10-year span, we would look at the various hydrologic years that we might encounter and have them tell us how we can operate in those hydrologic years.

If, as my colleague, Mr. Williams, says, the new Director of the Fish and Wildlife Service, if you only have 1 year, you are absolutely forced to get it right, and if you do not have the data and you do not necessarily have the supporting things that you are confident in your judgments, it makes it very difficult for the biologists. So we went to a 10-year plan and we are sticking with that.

And I should point out, when you have a 10-year plan, just like last year, we had biological opinions. We are reconsulting on those opinions so that we will have new opinions. If, in the event we come out with the 10-year biological opinions, as we will for both

the coho and sucker this year, if there is new data that comes in that suggests that we need to redo the consultation, we will do it, and that is something that is routinely done.

Ms. SOLIS. I guess my concern would be the opportunity for new science to come into play and that those factors be measured, as well, and so that 10 years, while it sounds like a long time, things do change. I just would caution that extent of time.

Ms. WOOLDRIDGE. Right. The history, as I understand it, there was a long-term opinion prepared by the Fish and Wildlife Service for the Bureau in 1992 and they operated under that, and then new data came in and they went to a series of 1-year opinions, and it is the collective wisdom of the agencies that that has forced some very difficult decisions because there was a lack of flexibility.

I also want to make sure that I am clear that this does not mean that the science is going to stop simply because we have a 10-year opinion. It is a way so that people can look at the operations over a larger, extended period of time so they can understand the flex in the system for the species.

Ms. SOLIS. Last, I would just be concerned that all interested parties have the availability to provide that necessary input to you, as well. I was a bit concerned to hear that there were some individuals that were also invited to come and speak here and were not allowed to, so I am concerned about that, about hearing from all sides.

Ms. WOOLDRIDGE. Thank you.

Ms. SOLIS. Thank you.

Mr. CALVERT. Mr. Osborne?

Mr. OSBORNE. Thank you, Mr. Chairman.

I appreciate you folks being here today very much. I would like to applaud the Secretary for authorizing the National Academy of Sciences study and reviewing the data.

I have a situation that may be a little bit similar to the Klamath Basin. We have a 56-mile designation of the Central Platte River in Nebraska that has been designated as critical habitat for the whooping crane. This was done in 1978. We have subsequently studied this and 11 out of those 24 years, there was no whooping crane that ever was even in the Platte Valley. The average number has been between one and two. There are now 175 cranes. So there is no research to validate that they even use the river, and it is all critical habitat.

In the meantime, we have had 140,000 acre feet of water designated per year for the endangered species, which goes down the river, which is lost to irrigation. We also have no new depletions, so since 1997, there have been no new wells drilled. You had to offset water. And this, again, is for the endangered species which does not seem to be there.

And then the height of, I guess, ridiculousness, was because of the higher flows in the river, they are losing sediment, so they now propose bringing in 100 dump truck loads per day for maybe 100 years to put sediment back in the river. Now they have backed off on that and now they are just going to bulldoze some islands in the river to replace sediment.

So where I am going with this is that it seems that the designation got out ahead of the facts and we are now stuck with the

designation. Maybe to some degree, that happened in the Klamath Basin. The question I have is, where do you go from here and what do you do to prevent this type of thing from happening, because, obviously, the data does not indicate that this is critical habitat for the whooping crane, and, obviously, there was some data that was contradictory regarding the coho salmon and the suckers in the Klamath Lake, and so any thoughts you would have, I would appreciate, any one of you.

Ms. WOOLDRIDGE. Well, we have a Federal working group that began its work last Friday and its task is to look at both immediate and long-term solutions for augmenting water supply and looking at water quality improvements for the basin in dealing with the complex issues, some of which were raised by Mr. Miller with respect to tribal claims.

We would absolutely need more and better science out there. I do not think there is any question about that. We have to fund the studies that have been proposed, those that have been passed that we are in the midst of. We have USGS is out looking at groundwater studies. The Fish and Wildlife Service, both for the sucker and down on the downstream, are continuing their studies. The tribal scientists that are funded through the Bureau of Indian Affairs are also performing their studies.

In the Klamath Basin, we have a problem and that is that over the course of many years, to sort of point the fingers at ourselves here, the Federal Government has promised water to the tribes through their treaty rights. They promised them the right to hunt, fish, trap and gather in that upper basin and the courts have said that that treaty right has an attendant water right. We have promised these farmers, who we said, come to the basin and we will give you all the water you need and we will have you do agriculture, irrigated agriculture.

And then for the third time, and apparently with no respect to any of the previous promises, we have passed the Endangered Species Act so that now we have water for fish, and we are just really thrilled in the Department of Interior because we get to do all three of those and we have got to find water for farmers, we have got to find water for fish, and we have got to invoke and protect those treaty rights.

So our goal is to try to find some way, if you can fix the ecosystem, that helps the fish, that also vindicates the tribal right, and that will help bring more water to farmers, because as the water quality is improved, you do not need so much water for those other two things, but it is going to take time and patience and our task is to figure out the immediate things that we can do that is going to let the farming community out there thrive while we are doing everything we can not to harm the species and not violate our tribal trust obligations.

That is a long answer, sir, and I am sorry I took so long, but I have been waiting to give that little speech.

Mr. OSBORNE. Thank you. I guess my question is, once the critical habitat has been designated, you have got a problem, and if the facts warrant it, how do you undo it? What is the best procedure?

Ms. WOOLDRIDGE. I know I have people sitting behind me who know that answer very well, and all I can tell you is turn to my colleague here for just a moment, because they have just undone a bunch of critical habitat designations and he might be the one more appropriately to speak to that, if I may.

Mr. HOGARTH. There are several mechanisms. One is petitions that it is no longer a critical habitat, and we can review those and remove it. There are lots of ways to go about it.

The one we just removed was based on the fact that the Tenth Circuit Court has said we have not done a sufficient economic evaluation, analysis of the impact of the critical habitat. So there are ways to do it that are pretty simple, and sometimes they are not simple. When you get into the court system, you may get something you do not really want out of that. But they can be looked at by the agency if additional data becomes available that the habitat is less, you know, you do not need as much habitat or if the whooping cranes, for example, are not present or conditions have changed, so there are ways to do it. It is just which is the best way to do it.

Mr. OSBORNE. We will be in touch with you and see if we can figure something out.

Mr. HOGARTH. Whooping cranes, by the way, is them, not us.

Mr. OSBORNE. Thank you. I yield back, Mr. Chairman.

Mr. CALVERT. I thank the gentleman.

Mr. Dooley?

Mr. DOOLEY. Thank you, Mr. Chairman, and I apologize for not being here at the beginning, so I might be repetitive, but we had a hearing on the CalFed bill a couple of weeks ago where we had a number of witnesses, and it was coming on the heels of the NAS study on Klamath being released. At that time, I inquired of all the panelists whether or not they would support an NAS study that would be similar in nature to the Klamath on issues related to water allocations in the delta. We also have sent a letter to Secretary Norton requesting that she request an NAS study that can provide us similar information that was generated by the work of the NAS on the Klamath. I was just wondering if there has been any decision or what is the status of this request at the Department.

Ms. WOOLDRIDGE. The status is that we do not have an answer for you yet. I have spoken several times with Mr. Polachansky, who is in the audience here today. I have spoken with Assistant Secretary Raley, who is out actually in California this week doing CalFed business, about your request, and what I am trying to do is put the two of them together and get them to talk about that.

The one issue that was our immediate thought when we came up here, the difference, if I may just point out, between the Klamath situation is we do not have a science board in place there, whereas in the CalFed process, we have a science board in place whose purpose is to take a sort of collective look at the science. I do not think that is a difference necessarily that makes a difference, but that was sort of my immediate thinking in looking at your request. Here, we had a real kind of absence of a cohesive effort to look at the science, whereas there are at least some steps taken in the CalFed process to help with that.

But that is not the answer to your actual question because we just do not have an answer at this point.

Mr. DOOLEY. I would just add how difficult it is to bring a greater consensus within California on what is the appropriate policy to implement to address all of our water needs, whether they be environmental or consumptive use by municipal and agriculture. Anything that we can do to enhance the confidence in the science and the decisions that are being made is so important, and I feel very, very strongly, as did—we had panelists representing Metropolitan Water District, representing the State water districts, representing the San Luis contractors, and also the Contra Costa Water District, who all supported an NAS study because I think they all understood that it would help build, I think, a greater confidence in the measures that were being implemented. So I hope that the administration will continue to move forward, and obviously, I hope that they would request that they work with the NAS to do a similar analysis.

Ms. WOOLDRIDGE. Thank you.

Mr. CALVERT. I thank the gentleman.

Mr. Radanovich?

Mr. RADANOVICH. Thank you, Mr. Chairman.

I really do not have a question, I think it is just kind of more of a statement that I wanted to use to weigh in on this argument. I kind of echo the need that was pointed out by my colleague, Mr. Herger, for Endangered Species Act reform, because I really think that this is the best evidence that we have for the need for that.

Ms. Wooldridge, I appreciate you had a good assessment of what the problem was in Klamath. However, I think at one point you had mentioned that, of course, we passed the Endangered Species Act to protect the fish, and you are exactly right in that circumstance. However, there are some fish that are apparently worth saving more than others and both can be listed as endangered species in the Endangered Species Act and the way the Endangered Species Act is written, it is so poorly written that it allows for agencies like NMFS to be arbitrary and capricious in which endangered species they want to protect.

I want to highlight another problem that we have on the East Coast and that is with the Washington aqueduct and the Wilson Bridge, there where we have an endangered species, which is the endangered sturgeon who, when developing the environmental assessment for the Wilson Bridge, it was said that they would take care of the habitat, or protect the endangered sturgeon by wiping out its habitat in and near the bridge so that the sturgeon would not be there. In the Washington aqueduct there, where they take the water out of the Potomac to purify the water for us here in Washington, D.C., they shoot it back in a collected form laced with alum and chlorine back onto the spawning grounds of the endangered sturgeon.

There you have—I think it is one of the most blatant abuses of the Endangered Species Act in urban areas, and here in the Klamath Valley, you have the most blatant abuse of the Endangered Species Act in rural America, and it is very easy to do this because rural America does not have the votes in Congress to change the law right now.

So a poorly written Endangered Species Act can allow special interest groups and those within the administration who have a very extreme agenda to really wreak havoc on people in rural America, where the law is just blatantly ignored in urban America.

I think that we all ought to strive for an Endangered Species Act that works for everybody, that can be applied both in rural America with some common sense, but also in urban America with some common sense. So I would really, if I had my way, everybody would walk out of here after the example of the Klamath River Basin and the disaster that was imposed on 1,200 farmers' lives with the real sense that the Endangered Species Act needs to be reformed, because on the walls of the Supreme Court is the term "equal justice under the law," and this law is so bad that it can allow such catastrophic abuses to people in the Klamath River Basin and yet just be completely ignored because some people do not want to be caught up in traffic for a period of time, some people do not want dump trucks traveling through their Georgetown neighborhoods, but we can certainly blow away 1,200 farmers in a place and it would not bother the rest of the people.

So the problem here is the Endangered Species Act and this kind of abuse is just going to keep going on until I think that we all realize that this law needs to be changed and the lawmakers here really need to get together and put something that works for every American. Thank you.

Mr. CALVERT. I thank the gentleman. Mr. DeFazio?

Mr. HOGARTH. I just want to respond real quickly to his point about the sturgeon.

Mr. CALVERT. The gentleman is recognized.

Mr. HOGARTH. When I came to the job as Assistant Administrator, I met with your staff and that was the first time I was aware of it. We are now in the process of reevaluating that. We met with the Potomac River Commission, the Fish Commission, the Washington, D.C. Commission, and we are implementing studies to document the presence of sturgeon, a critical habitat and all. I was not aware until I met with your staff and they pointed out some things that seem to be inconsistent, and—

Mr. RADANOVICH. I am not blaming you, Mr. Hogarth, but this has been going on for 30 years. Everybody knew what was going on here. It is just convenient to ignore. And some people in Georgetown do not want dump trucks hauling sediment through their neighborhoods. They just ignore the law. You know, this is how it works.

Mr. CALVERT. I thank the gentleman.

Mr. DeFazio?

Mr. DEFAZIO. No questions.

Mr. CALVERT. Any other questions on this side? Mr. Miller?

Mr. MILLER. Thank you, Mr. Chairman.

On the minority side of the Committee, we had asked for a number of people to be invited to this hearing and they were not. We were not allowed to have that happen. So if I might, Mr. Lewis, what is the process going to be for correcting or at least looking at what have been alleged as factual errors in your report? I appreciate that apparently somebody said that the Academy does not make mistakes, it does not have factual errors, but let us assume

that you might for one time out of 100. What is going to be the process for dealing with that?

Mr. LEWIS. The interim report is in final form except for very minor editorial matters, such as punctuation and spelling and removing the odd word here and there. The interim report is final and the Committee is working on—

Mr. MILLER. So there are no errors in the interim report?

Mr. LEWIS. I did not say that. The interim report is final and the Committee stands behind it fully.

The final report is the task of the Committee now. It is focusing very strongly on the final report and is on schedule to produce that report in the spring of this coming year.

Mr. MILLER. Can I forward to you the questions that people would have raised here with respect to the use of the evidence and what are alleged—I do not know whether they are, I do not have the capability to know whether they are—alleged factual errors contained in the report?

Mr. LEWIS. Yes, by all means, do.

Mr. MILLER. Will they get consideration?

Mr. LEWIS. Absolutely.

Mr. MILLER. Thank you.

Mr. WALDEN. Would the gentleman yield for just a second?

Mr. MILLER. Sure.

Mr. WALDEN. I believe that you also held a public hearing in Medford and then went to Klamath Falls, did you not, to also collect data?

Mr. MILLER. I understand that.

Mr. WALDEN. OK.

Mr. MILLER. I am not passing judgment on whether that was done, and if this is redundant, tell me it is redundant. We wanted people to come and testify that have raised some concerns who are heavily impacted by this action and I just want to make sure that they have an avenue to have those given full consideration.

Mr. LEWIS. I probably should add something, Mr. Chairman, if I could.

Mr. CALVERT. It is the gentleman's time, but if it is fine with him, you are recognized.

Mr. LEWIS. Oh, OK. Mr. Miller?

Mr. MILLER. Go ahead.

Mr. LEWIS. I should, in fairness to the Academy, point out that reports of this type are very extensively reviewed. They pass through a peer review process. Anonymous reviewers who are selected by the Academy staff for their expertise in the subject are asked to give written reviews. We had very extensive written reviews that we were required to respond, point by point, to every item in each of these reviews and to make any changes necessary to either make a case that the reviewer's comment was irrelevant or incorrect or to change the report.

This document went through that process and that process was monitored by a report coordinator and a report monitor working for the NAS report review Committee.

Mr. MILLER. I understand that. I understand that and I am not challenging that.

Mr. LEWIS. Right.

Mr. MILLER. I am just challenging whether or not there was due consideration to these points. Your answer may be the answer that I am going to get back. But, you know, once you start down this process where you decide you are going to use science also as a battering ram, you ought to understand that what is good for the goose is going to have to be good for the gander. It would be interesting if the NAS now becomes the vehicle that is the battering ram against the Endangered Species Act. We will wait and see what happens there.

I also want to just, if I might, take issue a little bit with Mr. Herger. The impacts of this decision are not combined to his Congressional district or Mr. Walden's Congressional district. I appreciate they want to take ownership of it, but obviously, the Pacific flyway, which runs from the Yukon to Mexico, is impacted in this. The commercial fishermen on the coast are impacted by this. The recreational people who have huge investments in their business along the Klamath or along the Trinity where we have other disputes on these water basins.

You cannot make a decision in the West and think it is confined to that basin or that river or that reservoir. The fact of the matter is, this is a huge quilt. You can pull on any part of it. You can send more water down the Trinity and Mr. Dooley's people are going to be upset. Give more water to Mr. Dooley's people and Ms. Solis's people are going to be upset.

So that is the game you signed up to play here, but at some point, there have got to be some rules of the road here that have got to work on both sides of the issue. You can argue, and the left and the right can both argue that this is not the best science available, and that can go on forever. But people like Mr. Hogarth and others have to make decisions about the jeopardy and what is going to take place.

We have seen the other decision. We lived under it for 150 years in this country and we inherited a decimated environment. What we are trying to do now is recover good portions of that environment—

Mr. HERGER. Would the gentleman yield?

Mr. MILLER. I will use my time, and if I am given more time, I would be happy to yield.

Mr. HERGER. My name was brought up. I would hope at some point you would yield.

Mr. MILLER. I will be happy to, Wally. You get more time. We all get another round of questions.

Mr. HERGER. Thank you.

Mr. MILLER. The point is this, is that that recovery has to happen, and it is happening in urban areas, it is happening in rural areas. We have all had our concerns about the science. I think those are valid. Not every scientific finding is the best that can be done and we have a right to raise those objections.

But I still think that you have to understand that you can put an awful lot of intense heat based upon one Congressional district or one set of farmers, but the fact is, every State in the union has gone through the same—I mean, in the West. The Central Arizona project has gone through this. The Central Utah project is going through this. The Central Valley project is going through this. It

is happening over and over again as we get competing uses for this water, and one of the competing uses is whether the people are from the rural area who rely on them or the people from the urban area that like to think they can go see them or benefit from them, is the preservation of the fish, both in-stream, in the coast, and the migration of those.

And so the constituency here is quite large. You can con yourself into believing that it is just about these people right here. It is not. The competing values and the competing water rights are very real under the law, so I would hope that we do not get forced into thinking that, somehow, this little piece can be micromanaged to the benefit just of these farmers. They are one voice, a very legitimate voice, a very important voice in their area. But they are one voice among many voices who have a competing interest and concern about the outcome of these decisions.

So when Mr. Herger demands that somehow you implement a decision that will result in the way he wants it by April, he is asking for the same kind of bad science that he is railing against in this decision. There is a process in place for how the Bureau will make this decision, how Fish and Wildlife, how NMFS will make this decision, and unless you change the law, that process ought to be honored, and it ought not to be honored in the breach. It ought to be honored on both sides of the equation all the time.

Mr. HERGER. Mr. Chairman—

Mr. CALVERT. The gentleman's time is expired.

Mr. MILLER. I would be happy to yield.

Mr. CALVERT. Mr. Herger, I am going to recognize you next.

Mr. MILLER. I wanted to yield to him.

Mr. CALVERT. I would be happy to recognize—

Mr. HERGER. I would like to be yielded to under his time, since he mentioned my name—

Mr. CALVERT. One point—

Mr. HERGER. —not under my time.

Mr. CALVERT. And I am going to recognize Mr. Herger. In the hearing in June, all the parties of interest were represented in Klamath River Valley itself.

Mr. Herger, you are recognized.

Mr. HERGER. Mr. Chairman, and I appreciate the fact that you gave quite a bit of extra time to my fellow Californian, and I would hope that I would have a little—

Mr. CALVERT. Use what time. Go ahead.

Mr. HERGER. —and he mentioned my name and I would like to respond. Hopefully, that would not be used under my time. But I would like to just mention or ask the question, how many jobs, how many people, residents of yours, constituents, were bankrupt in your district as in mine? What I am asking for is not that we consider all the interests. That is not what we are asking.

I am asking that we be put into the balance, and I ask how much balance have my 1,500 farmers that are being forced to go bankrupt, or a community of 70,000 is forced to go bankrupt, how much balance when they get zero water, not 5 percent of the water or half of the water, but zero percent of the water? How much balance is there there?

Now, we hear from your constituency, the radical environmentalists, over and over and over again. How often do we hear from my constituency, the ones that are going broke, or, as was brought up by my colleague over here from California, as well, the fact of the imbalance that we have, that we have people in Georgetown that do not have trucks running through their district. We can build a freeway so that you can get to work on time, but those who live in my district are going bankrupt. Where is the balance?

We put men on the moon three decades ago, but yet we have a radical environmental community from the big cities that are not put out of work that insist on my people going broke and I just think that that balance and that point needs to be heard with the same indignation that you have expressed, Mr. Miller.

Now, with that, I would like to continue with my time, if I could.

Mr. MILLER. Would the gentleman yield?

Mr. HERGER. Well, Mr. Miller, we—these affect my constituents who are going broke while your constituents are flourishing and feel very good about what they are doing.

Mr. MILLER. That is not on the impact of the Endangered Species Act. All families in my area—

Mr. CALVERT. Mr. Miller—

Mr. MILLER. —millions of dollars to comply with—

Mr. CALVERT. It is Mr. Herger's time.

Mr. MILLER. —all over the country.

Mr. CALVERT. It is Mr. Herger's time. Mr. Herger, you are recognized.

Mr. HERGER. Thank you very much, Mr. Chairman.

Ms. Wooldridge, again, we have very serious concerns with the Hardy flow study. The National Academy of Sciences clearly tells us that it is clearly not based on sound science, but we also have strong concerns about the process by which it has been undertaken.

My constituents have been given information that Dr. Hardy was under contract to the Department of Justice, apparently including as an expert witness for the Bureau of Indian Affairs in the Klamath River adjudication. It appears to us that the work was directed, to a great degree, by the branch of the Solicitor's Office representing the Bureau of Indian Affairs, thus advocating the position of one group in the basin. In short, it appears that the Hardy study was done under the auspices of an expert witness contract. Therefore, it appears it lacks any objectivity.

Does there not appear to be some serious conflict of interest, and has the Department looked into this matter? If so, what conclusions have been reached?

Ms. WOOLDRIDGE. Questions about Professor Hardy's work came to us really actually from the moment we came into Interior last February. There is no question at all that because you have an adjudication of rights in that basin, you have constituencies with very serious personal interests in the outcome of that adjudication, whether it is the Bureau of Reclamation—I mean, the Federal Government alone has 400 of the 700 claims out there, and part of that is from the Bureau of Land Management, to the Park Service, to the BIA, Bureau of Reclamation, you name it, we have got claims out there in this adjudication.

Dr. Hardy, I believe, was working as you described it and that was the genesis of a lot of complaints about the nature of this science, that it had not been peer reviewed because it is part of the adjudication, it had been done as work product, it had not been put out for public review. When it was given to the Fish and Wildlife Service, it did then go through a public review process and I know, because I read the objections to it, that the water users' scientists critiqued those studies.

What we have done with respect to Hardy 2, which is not yet done—Hardy 1 was a literature study. It is now a larger study. It is coming out. It is out for public comment right now. We should be done very soon with that portion of it and then it will be peer reviewed—

Mr. HERGER. Ms. Wooldridge—

Ms. WOOLDRIDGE. and the Bureau of Indian Affairs has committed to it.

Mr. HERGER. —I understand my constituents have requested information about these concerns but that they have never been able to secure the information. I would like to request your commitment to providing us the requested information and documentation.

Ms. WOOLDRIDGE. I do not think there would be any problem in providing information. I am not aware of what those requests are. I do know that there was a period of time that people were invited to sit in with the technical review team with Mr. Hardy, and then at some point, people were disinvited, and that caused us great concern. So since then, we have tried to make sure it is an open process. I would be happy to make sure that we respond to whatever questions are out there.

Mr. HERGER. And then, in conclusion, it is not just that the Endangered Species Act is not balanced or not fair, it is not being implemented fairly. We see incredibly unfair studies like this with clear conflict of interest taking place that seems to be ignored. We have biologists who are planting lynx hair in areas to make it appear that we have endangered species in areas that they do not even exist, and yet that seems to be ignored, while at the same time we have the Woodrow Wilson Bridge that is going full steam ahead with endangered species that are being completely ignored, just because one is in a populated area where the radical environmentalists seem to dominate and another area is in the West. This is not fair and it has to be corrected.

Ms. WOOLDRIDGE. To respond, I was not able to be here last week, but I do know that in the lynx study hearing that was held that Dr. Williams did point out the steps that he was trying to take to respond to that study and looking at the Inspector General's report on the results of that study and I am aware that those are being taken very seriously within the Department.

Mr. HERGER. If the shoe were on the other foot, I suspect Congressman Miller would be demanding that these people be thrown in jail and in prison, where we do not hear anything coming out when we see it happening the other way around.

Thank you again for being generous with your time, Mr. Chairman.

Mr. CALVERT. I thank the gentleman.

Mr. Udall, you are recognized.

Mr. UDALL OF NEW MEXICO. Thank you, Mr. Chairman.

Dr. Lewis, you can see your report has stirred up a hornet's nest here.

Mr. LEWIS. Not just here, but several other places, too.

Mr. UDALL OF NEW MEXICO. You talked about peer review a little bit. I am wondering how you define that, first of all.

Mr. LEWIS. Yes. A peer review process usually involves an intermediary, which would be an editor or a sponsor of some kind who is on neutral ground or is in some way not terribly committed to the content of a report or a document, sending that document then to someone who has qualifications that are similar to the qualifications of the people who wrote the document, and asking those people to make an objective review of the content of the report or document.

Mr. UDALL OF NEW MEXICO. And that has already been done with this report?

Mr. LEWIS. Yes.

Mr. UDALL OF NEW MEXICO. Is that a part of the report, who peer reviewed it?

Mr. LEWIS. Yes, it is written into the report.

Mr. UDALL OF NEW MEXICO. And are any critiques, are they subject to review at this point?

Mr. LEWIS. No.

Mr. UDALL OF NEW MEXICO. So the comments they made, the full comments are not out there?

Mr. LEWIS. No, they are not released.

Mr. UDALL OF NEW MEXICO. They are not released. Is there a reason for that in the peer review process? I mean, we have scientists that are outside of this process. This is clearly now a big public process. We have very capable people that could look at some of these comments and maybe help move this scientific process along.

Mr. LEWIS. The Academy does not—the Academy follows strictly prescribed procedures in all of its reports, and one of these procedures is to get all of these comments and have a monitor and a coordinator from the Academy and from the NRC go over the comments and make sure, hold the Committee's feet to the fire in responding to the comments in a valid way, and that is the effect of the comments, of the review comments.

Mr. UDALL OF NEW MEXICO. Is it fair to say in the peer review process that there are probably scientific comments from scientists that disagreed with the conclusions you have come to?

Mr. LEWIS. Yes, there were.

Mr. UDALL OF NEW MEXICO. And is there going to be further peer review of this? You talked about a final report in, I think, March or April or something. Is there going to be further peer review in that process?

Mr. LEWIS. We will go through the exact same process that we did for the interim report. We will have lots of meetings, opportunities for people to send things to us that we must consider, for people to make objections to our previous report, and we will write a report that goes out for peer review, and we do not select the reviewers. The NRC does. We will receive those reviews. We will have to respond to them and either put an individual item to rest

or amend the report if there is something missing in the report or if we cannot defend it to the satisfaction of the people who are monitoring this process.

Mr. UDALL OF NEW MEXICO. And the individuals that do the peer review, they are expected to be unbiased third parties?

Mr. LEWIS. Yes. Say that again, sir?

Mr. UDALL OF NEW MEXICO. I said, the people that are doing the peer review, are they expected to be unbiased third parties?

Mr. LEWIS. No. They may have a bias, but they are qualified technically to do the review. They may have a known bias, but they are qualified technically to do the review.

Mr. UDALL OF NEW MEXICO. And how do you deal with the bias? Do you disclose that publicly—

Mr. LEWIS. No.

Mr. UDALL OF NEW MEXICO. —so that individuals—

Mr. LEWIS. No, we do not.

Mr. UDALL OF NEW MEXICO. You do not disclose it?

Mr. LEWIS. It is not possible to quantify a bias. I can just tell you from experience that when you read a review sometimes, you realize it is biased. But the content of the review has an objective part and that part, regardless of the bias of the individual who wrote it, has to be dealt with by the Committee before the report can be released.

Mr. UDALL OF NEW MEXICO. But when you are dealing with a public process, would it not be fair to tell what the bias is of that third party so that the public can know that?

Mr. LEWIS. Well, you are getting into the traditions and conventions of the National Academy of Sciences and National Research Council. The reviewers' comments, I understand from a note a staff member passed me here, are not made public because that might inhibit reviewers from giving candid or unpopular comments, and some of them are quite candid.

Mr. DEFAZIO. Would the gentleman yield?

Mr. UDALL OF NEW MEXICO. I certainly would yield. I certainly would yield.

Mr. DEFAZIO. If I could just—I did not take a round before.

Mr. UDALL OF NEW MEXICO. Please, go ahead.

Mr. DEFAZIO. But could you not make those comments available without identifying the reviewer?

Mr. LEWIS. I cannot answer questions related to NRC or NAS policy because I do not control that policy.

Mr. DEFAZIO. But, I mean, what you just said, they would not be candid because they might be subject to some peer sanction or whatever. But if you just took the comments and said, OK, here are the critical comments, but you did not identify to whom they were attributable—

Mr. LEWIS. Well, if you—

Mr. DEFAZIO. —would that not remove that—

Mr. LEWIS. In most cases—

Mr. DEFAZIO. —that slender reed on which we are balancing this withholding of critical information?

Mr. LEWIS. If you gave me a review comment, I, in a lot of cases, could tell you who wrote it, even if you took your name off of it.

Mr. DEFAZIO. Well—

Mr. CALVERT. The gentleman's time is expired.

Mr. Walden?

Mr. WALDEN. Thank you very much, Mr. Chairman.

Dr. Lewis, is there anything about the process that the Research Council used to evaluate the Klamath data that is different from the process the Research Council and the NAS use to evaluate any data?

Mr. LEWIS. No. This is—

Mr. WALDEN. There is nothing unique here?

Mr. LEWIS. No. This is a prescribed process. It has been in place for a very long time. It has been used in service of this nation's government for a very long time, since the 1860's.

Mr. WALDEN. All right. Have you heard anything yet from people who testified before the Committee out in Medford and elsewhere that would cause you to have serious questions about your initial findings?

Mr. LEWIS. No. The Committee stands behind its report, notwithstanding the fact that a number of people, some with good qualifications, would have us rewrite parts of it. We stand behind it anyway.

Mr. WALDEN. All right. How important is peer review in all this discussion? Was the data that the Service, the Fisheries Service relied upon, had it been peer reviewed before their BO?

Mr. LEWIS. Well, most of the information we used was not externally peer reviewed. The agencies are constantly reviewing their writing because they pass it around internally and they want to make sure they do not make correctable mistakes. They do not have the leisure of going through an external review usually because an external review is very time consuming. In this case, many things were happening in a great rush. You have to realize that. We had the drought. We had the question about the water management. We had the studies coming on. We had agencies on both sides all happening at once.

Mr. WALDEN. I know, and I understand that, but on the other hand, the result of the decisions that were made in a rush, not based on adequate science, which I think is what your report said, caused enormous hardship out there. There were at least five bankruptcies I am aware of and eight others who liquidated everything they had at auction to avoid bankruptcy.

So that is why I am pleased the administration is looking at a 10-year plan, so we get a little flexibility here. The astonishing thing to me today is how roiled up the other side is when you have a report that says maybe the agency has made a mistake and the farmers were right all along. So when I would go to those meetings in Klamath Falls and around the farmers, they would say, you know, there were these years of great mortality in fish when you had high lake levels, and you had years of great new fish counts when you had low lake levels. If you dump hot water down the Klamath River, you are going to basically parboil the coho. I kept hearing that over and over. I do not know. It is very frustrating.

Sue Ellen, if I could ask you, did the agencies involved in management of Klamath, the fishery services, did they collect any new data in this water year where we held the lake at its highest level? Did they do any analysis on the effect that had on the suckers?

Ms. WOOLDRIDGE. They have raw data. I have not seen any conclusory reports from that. They continued their data collection. Particularly, the USGS has ongoing studies on the lake.

Mr. WALDEN. Let me ask a question on the ESA, and I know you do not want to address the big ones, but is it not accurate that the Endangered Species Act allows for captive breeding, if you will, hatcheries, other forms of captive breeding, to meet the goals of ESA?

Ms. WOOLDRIDGE. Yes.

Mr. WALDEN. That is allowed, right?

Ms. WOOLDRIDGE. Yes.

Mr. WALDEN. Under the current law?

Ms. WOOLDRIDGE. Yes.

Mr. WALDEN. So if we could improve the habitat and the water quality and fish passage and fish screening, all those things that should have been done 10 years ago, 20 years ago, whatever, we need to get them done, if we could get those things done, would there be anything that would stop us from trying to take another look at a sucker hatchery?

Ms. WOOLDRIDGE. No.

Mr. WALDEN. And are there not organizations out there that do that already in lakes and rivers, that do, what is the term, in-refuge them, is that correct?

Ms. WOOLDRIDGE. Yes. There is some word like that, yes.

Mr. WALDEN. Where they actually raise them in the existing water, with the existing food supply, introduce predators so they grow up as naturally as possible, and then they pull out the nets or—

Ms. WOOLDRIDGE. Yes. I am not aware of a lot of the details, but I—

Mr. WALDEN. That is what I have been told. It just seems to me like in the biological assessment, there are at least three pages of projects and studies that, if accomplished, could probably resolve 99 percent of the problems in this basin. Would that—and Mr. Hogarth, you can comment. If those things were done that are in the BA, in the appendix of the BA, would that solve our problems down there?

Mr. HOGARTH. I think it would come a long way to doing it, yes, sir.

Mr. WALDEN. Sue Ellen, do you agree?

Ms. WOOLDRIDGE. Yes.

Mr. WALDEN. Dr. Lewis, do you have any comment on that? Have you looked at the appendix in the biological assessment, the three or four pages of action items?

Mr. LEWIS. Well, I—

Mr. WALDEN. Or is that outside of your review?

Mr. LEWIS. Yes. I am confident that we must do some of the things that all parties have agreed to do but have not been done. The canals have to be screened. We are killing hundreds of thousands of individuals in this population we know to be endangered. The fish have to get to their spawning grounds. You do not have to take them to a hatchery. They are eager to spawn. They line up to get there.

Mr. WALDEN. Let us not go too far on that one.

[Laughter.]

Ms. WOOLDRIDGE. Let us keep this at PG.

[Laughter.]

Mr. LEWIS. So my argument would be, we are definitely hung up on issues related to water management and we cannot avoid dealing with that question.

Mr. WALDEN. Right.

Mr. LEWIS. But in the meantime, we can deal with a lot of other things.

Mr. WALDEN. Exactly. And, in fact, Mr. Chairman, on a final note, this Committee and this House passed legislation that I sponsored to require a study of fish passage at Chiloquin Dam, and if we could just get the other body to act, maybe we could get moving on that.

Mr. CALVERT. We have got a whole bunch of things we would like them to act on, Mr. Walden.

Mr. WALDEN. Thank you, Mr. Chairman.

Mr. CALVERT. In closing, I want to thank this panel. Obviously, passions run deep when it comes to water and I would warm the administration this is a warm-up act. A couple of years ago in San Diego, we had a canary in the mine with energy prices. I would suspect that this in the Klamath River Valley is a warm-up with what is going to occur in the Central Valley and Imperial County and the Colorado River and the Rio Grande and the rest of it. So I think we ought to pay a little more attention to water and its impact on our society.

With that, this hearing is adjourned.

[Whereupon, at 12:04 p.m., the Committee was adjourned.]

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